INTRODUCTION

How to Use This Manual

This supplement contains information for the 95 CIVIC. Refer to following shop manuals for service procedures and data not included in this supplement.

Description	Code No.
CIVIC MAINTENANCE, REPAIR and CONSTRUCTION 92 VOL.1 and VOL.2 CIVIC SUPPLEMENT 93 CIVIC SUPPLEMENT 94	62SR300A 62SR300B 62SR320 62SR321

The first page of each section is marked with a black tab that lines up with one of the thumb index tabs on this page. You can quickly find the first page of each section without looking through a full table of contents. The symbols printed at the top corner of each page can also be used as a quick reference system.

Special Information

⚠WARNING

Indicates a strong possibility of severe personal injury or loss of life if instructions are not followed.

CAUTION:
Indicates a possibility of personal injury or equipment damage if instructions are not followed.

NOTE:
Gives helpful information.

CAUTION:
Detailed descriptions of standard workshop procedures, safety principles and service operations are not included. Please note that this manual contain warnings and cautions against some specific service methods which could cause PERSONAL INJURY, damage a vehicle or make it unsafe. Please understand that these warnings cannot cover all conceivable ways in which service, whether or not recommended by Honda, might be done, or of the possible hazardous consequences of every conceivable way, nor could Honda investigate all such ways. Anyone using service procedures or tools, whether or not recommended by Honda, must satisfy himself thoroughly that neither personal safety nor vehicle safety will be jeopardized.

All information contained in this manual is based on the latest product information available at the time of printing. We reserve the rigtht to make changes at any time without notice. No part of this publication may be reproduced, stored in retrieval system, or transmitted, in any form by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of the publisher. This includes text, figures and tables.

marked sections are not included in this manual.
As sections with * include SRS components; special precautions are required, when servicing.

First Edition 9/94 196 pages
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HONDA MOTOR CO., LTD.
Service Publication Office

*General Info
Special Tools
Specifications
Maintenance
Engine
Cooling
Fuel and Emissions
Transaxle
*Steering
Suspension
Brakes (Including ABS)
*Body
*Heater and Air Conditioning
*Electrical (Including SRS)

Outline of Model Changes

ITEM	DESCRIPTION	MODELS			REFERENCE SECTION
		93	94	95	
Engine	Modified · Rocker shaft collar for D15Z1 engine	○			—
	Adopted · D15Z2, D15B7 and D16Y1 engines for KQ model · D15B7 and D16Z9 engines for KB model Changed · Torque value of mount and bracket bolts and nuts · Recommended engine oil		○		—
	Added · B16A3 engine for KM model			○	5
PGM-CARB.	Changed · Wire harness color · Fuel feed pipe, fuel return pipe and fuel vapor pipe materials for 4WD (Except European) model	○			—
	Adopted · D15Z2 engine for KQ model		○		—
	Changed · Idle speed for D13B2 engine			○	11
PGM-FI	Changed · Wire harness color · Fuel feed pipe, fuel return pipe and fuel vapor pipe materials for 4WD (Except European) model Out of use · Fuel-sub pump for 4WD model Added · Jet pump for 4WD model	○			—
	Added · D15B7 and D16Y1 engines for KQ model · D15B7 and D16Z9 engines for KB model Modified · Electronic Control Unit (ECU) · Throttle body for B16A2 engine Changed · Main wire harness · Main wire harness for B16A2 engine · Fuel pressure for D15B2 engine · Throttle body		○		—
	Added · B16A3 engine for KM model · Fuel tube/quick-connect fittings Changed · Fuel filter configuration			○	11
Clutch	Changed · Torque value of clutch pipe for LHD model · Recommended grease	○			—
	Added · Clutch interlock switch for some models			○	12

ITEM	DESCRIPTION	MODELS			REFERENCE SECTION
		93	94	95	
Manual Transmission	Changed · Recommended grease · Method of shift fork spring pin installing	○			–
	Modified · Transmission mount, right front mount/bracket and rear mount/ bracket Changed · Torque value of transmission mounting bolts · Torque value of transmission mount bolt for S20 and Y21 manual transmissions · Transmission breather cap for S20 manual transmission · Shift fork for Y21 manual transmission · Super-low shaft, 2-4 select lever and transfer shaft for S22 manual transmission		○		–
	Added · S21 manual transmission (Specifications of the S21 manual transmission is same as that of the Y21 manual transmission.) Changed · Countershaft inspection for Y21 (S21) manual transmission · Reverse idler shaft bolt torque for Y21 (S21) and S22 manual transmissions			○	13
Automatic Transmission	Modified · Hydraulic circuit · Secondary valve body · Reverse idler gear Changed · Drain plug · Throttle pressure and governor pressure · Reverse selector hub on the countershaft	○			–
	Modified · Hydraulic circuit Changed · Parking gear · Reverse idler gear shaft and holder · Oil guide cap of the sub-shaft · Secondary valve body · Servo body · Countershaft · Clutch assemblies Abolished · 4WD disengagement mechanism		○		–
	Modified (for S24A automatic transmission) · Installation procedure of sub-shaft oil guide cap · 1st-hold clutch piston · Gearshift selector for KB and KM models Changed · Shift schedule for S24A automatic transmission Discontinued · ATF magent for S24A automatic transmission			○	14

Outline of Model Changes

ITEM	DESCRIPTION	MODELS			REFERENCE SECTION
		93	94	95	
Rear Differential	Changed · Rear differential assembly		○		–
Driveshafts	Changed · Rear driveshaft and propeller shaft for 4WD model		○		–
Brake	Modified · Wire colors between solenoids and ABS control unit	○			–
	Modified · ABS for 4WD model		○		–
Body	Changed · Fastener and spacer for rear window · Limit switch position of sunroof motor unit Added · Some version emblems · Rear seat access cable Abolished · Shim for sunroof panel/glass height adjustment		○		–
	Changed · Outer handle and latch replacement procedure (front door) · License plate trim replacement procedure (4D) · Frame repair chart · Seat belt anchor bolt construction · Quantities of side sill panel clips Added · Door channel tape replacement procedure · Emblems for KM model			○	20
Air Conditioning	Adopted · New refrigerant HFC-134a (R-134a)		○		–
Electrical	Changed · Wire color of ignition switch · Data link connector · Alternator brushes (Mitsuba type) · Terminal number of shift lock solenoid Modified · Power supply circuit	○			–
	Changed · Ignition system for KQ model · Integrated Control Unit for KQ and KB models · Seat heater for some KS model Added · Supplemental Restraint System (SRS) type III		○		–
	Changed · Wire colors for interlock system, integrated control unit and ceiling/trunk/cargo area lights · Cruise control system · Spark plug and service check connector specifications Added · Clutch interlock switch			○	23

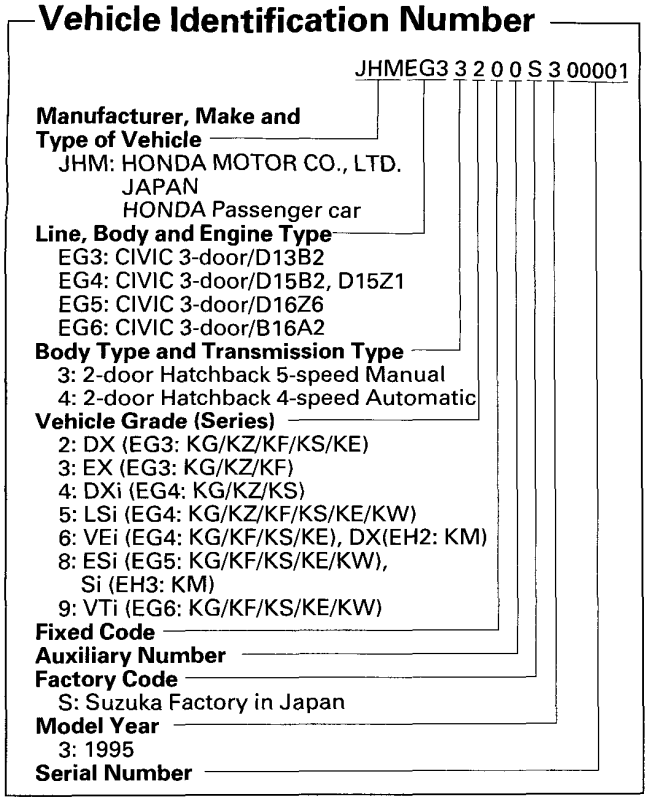
General Information

Chassis and Engine Numbers..... 1-2
Identification Number Locations 1-8
Warning/Caution Label Locations 1-9

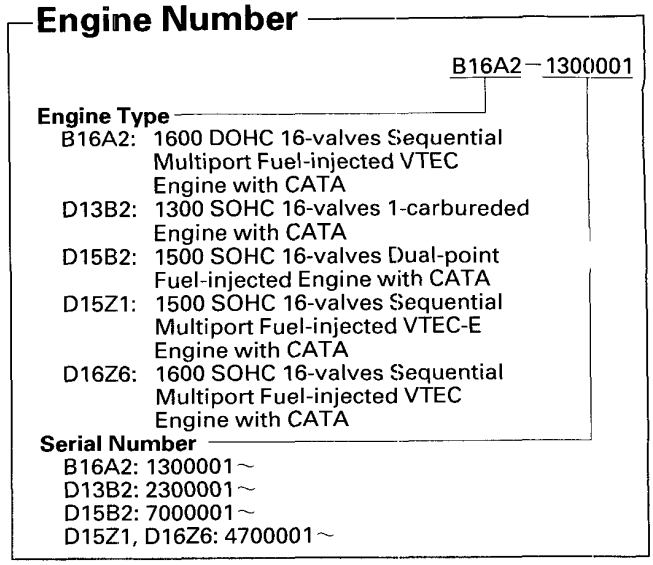
Chassis and Engine Numbers

European Model (2-door Hatchback)

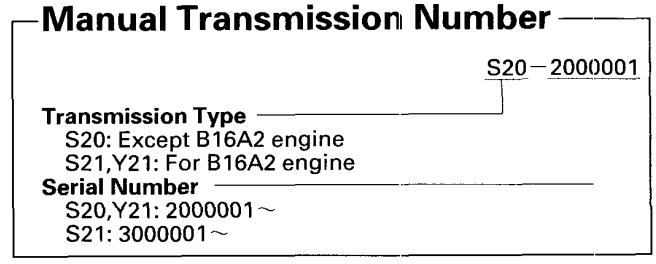
Vehicle Identification Number


JHMEG3 3 2 0 0 S 3 00001
Manufacturer, Make and Type of Vehicle
JHM: HONDA MOTOR CO., LTD. JAPAN
HONDA Passenger car
Line, Body and Engine Type
EG3: CIVIC 3-door/D13B2
EG4: CIVIC 3-door/D15B2, D15Z1
EG5: CIVIC 3-door/D16Z6
EG6: CIVIC 3-door/B16A2
Body Type and Transmission Type
3: 2-door Hatchback 5-speed Manual
4: 2-door Hatchback 4-speed Automatic
Vehicle Grade (Series)
2: DX (EG3: KG/KZ/KF/KS/KE)
3: EX (EG3: KG/KZ/KF)
4: DXi (EG4: KG/KZ/KS)
5: LSi (EG4: KG/KZ/KF/KS/KE/KW)
6: VEi (EG4: KG/KF/KS/KE), DX(EH2: KM)
8: ESi (EG5: KG/KF/KS/KE/KW), Si (EH3: KM)
9: VTi (EG6: KG/KF/KS/KE/KW)
Fixed Code
Auxiliary Number
Factory Code
S: Suzuka Factory in Japan
Model Year
3: 1995
Serial Number

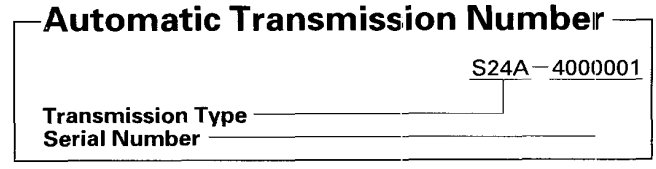
Engine Number


B16A2 – 1300001
Engine Type
B16A2: 1600 DOHC 16-valves Sequential Multiport Fuel-injected VTEC Engine with CATA
D13B2: 1300 SOHC 16-valves 1-carbureded Engine with CATA
D15B2: 1500 SOHC 16-valves Dual-point Fuel-injected Engine with CATA
D15Z1: 1500 SOHC 16-valves Sequential Multiport Fuel-injected VTEC-E Engine with CATA
D16Z6: 1600 SOHC 16-valves Sequential Multiport Fuel-injected VTEC Engine with CATA
Serial Number
B16A2: 1300001~
D13B2: 2300001~
D15B2: 7000001~
D15Z1, D16Z6: 4700001~

Manual Transmission Number



Automatic Transmission Number



European Model (4-door Sedan)

Vehicle Identification Number

JHMEG8 5 4 0 0 S 3 00001

Manufacturer, Make and Type of Vehicle
- JHM: HONDA MOTOR CO., LTD. JAPAN HONDA Passenger car

Line, Body and Engine Type
- EG8: CIVIC 4-door/D15B2, D15Z1
- EG9: CIVIC 4-door/B16A2
- EH1: CIVIC 4-door 4WD/D16Z7
- EH9: CIVIC 4-door/D16A7, D16Z6, D16Z7

Body Type and Transmission Type
- 5: 4-door Sedan 5-speed Manual
- 6: 4-door Sedan 4-speed Automatic

Vehicle Grade (Series)
- 4: DXi (EG8: KG/KS) EX (EH9: KR)
- 5: LSi (EG8: KG/KF/KS/KE/KW)
- 6: VEi (EG8: KG/KF/KS/KE)
- 8: ESi (EH9: KG/KZ/KF/KS/KE/KW) RTSi (EH1: KG)
- 9: VTi (EG9: KG/KF/KS/KE/KW)

Fixed Code

Auxiliary Number

Factory Code
- S: Suzuka Factory in Japan

Model Year
- 3: 1995

Serial Number

Engine Number

B16A2 – 1300001

Engine Type
- B16A2: 1600 DOHC 16-valves Sequential Multiport Fuel-injected VTEC Engine with CATA
- D15B2: 1500 SOHC 16-valves Dual-point Fuel-injected Engine with CATA
- D15Z1: 1500 SOHC 16-valves Sequential Multiport Fuel-injected VTEC-E Engine with CATA
- D16A7: 1600 SOHC 16-valves Sequential Multiport Fuel-injected Engine without CATA
- D16Z6: 1600 SOHC 16-valves Sequential Multiport Fuel-injected VTEC Engine with CATA
- D16Z7: 1600 SOHC 16-valves Sequential Multiport Fuel-injected VTEC Engine with CATA for Germany and 4WD

Serial Number
- B16A2: 1300001~
- D15B2: 7000001~
- D15Z1, D16Z6: 4700001~
- D16A7: 5300001~
- D16Z7 for Germany: 1600001~
- D16Z7 for 4WD: 1700001~

Manual Transmission Number

S20 – 2000001

Transmission Type
- S20: Except B16A2 engine and 4WD model
- S21, Y21: For B16A2 engine
- S22: For 4WD model

Serial Number
- S20, Y21, S22: 2000001~
- S21: 3000001~

Automatic Transmission Number

S24A – 4000001

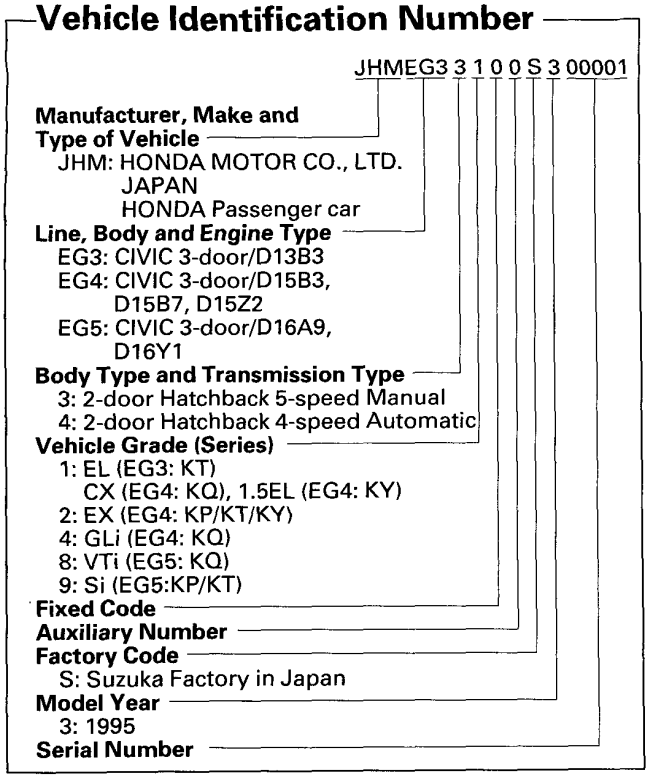
Transmission Type
- S24A: For 2WD model
- M25A: For 4WD model

Serial Number

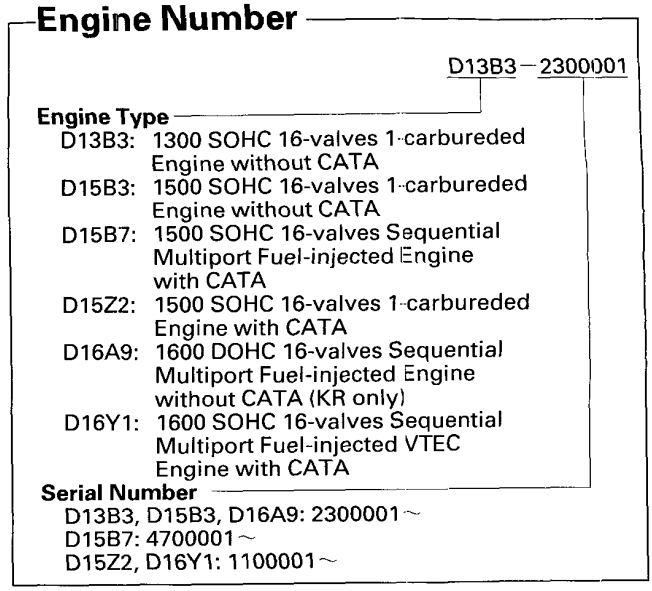
Chassis and Engine Numbers

Except European Model (2-door Hatchback)

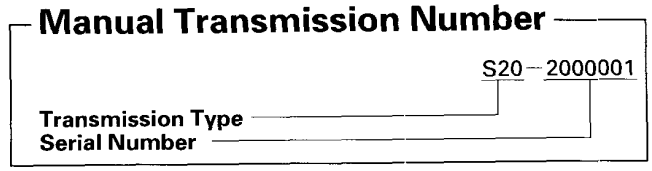
Vehicle Identification Number


JHMEG3 3 1 0 0 S 3 00001
Manufacturer, Make and Type of Vehicle
JHM: HONDA MOTOR CO., LTD. JAPAN HONDA Passenger car
Line, Body and Engine Type
EG3: CIVIC 3-door/D13B3
EG4: CIVIC 3-door/D15B3, D15B7, D15Z2
EG5: CIVIC 3-door/D16A9, D16Y1
Body Type and Transmission Type
3: 2-door Hatchback 5-speed Manual
4: 2-door Hatchback 4-speed Automatic
Vehicle Grade (Series)
1: EL (EG3: KT) CX (EG4: KQ), 1.5EL (EG4: KY)
2: EX (EG4: KP/KT/KY)
4: GLi (EG4: KQ)
8: VTi (EG5: KQ)
9: Si (EG5:KP/KT)
Fixed Code
Auxiliary Number
Factory Code
S: Suzuka Factory in Japan
Model Year
3: 1995
Serial Number

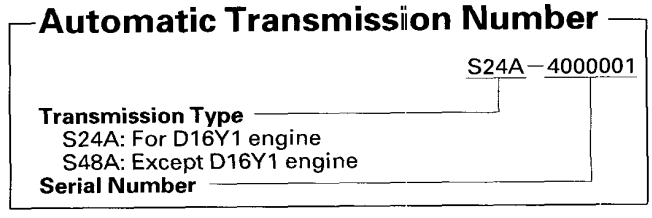
Engine Number


D13B3 – 2300001
Engine Type
D13B3: 1300 SOHC 16-valves 1-carbureded Engine without CATA
D15B3: 1500 SOHC 16-valves 1-carbureded Engine without CATA
D15B7: 1500 SOHC 16-valves Sequential Multiport Fuel-injected Engine with CATA
D15Z2: 1500 SOHC 16-valves 1-carbureded Engine with CATA
D16A9: 1600 DOHC 16-valves Sequential Multiport Fuel-injected Engine without CATA (KR only)
D16Y1: 1600 SOHC 16-valves Sequential Multiport Fuel-injected VTEC Engine with CATA
Serial Number
D13B3, D15B3, D16A9: 2300001~
D15B7: 4700001~
D15Z2, D16Y1: 1100001~

Manual Transmission Number



Automatic Transmission Number



Except European Model (4-door Sedan)

Vehicle Identification Number

JHMEH8 5 1 0 0 S 3 00001

Manufacturer, Make and Type of Vehicle
- JHM: HONDA MOTOR CO., LTD. JAPAN HONDA Passenger car

Line, Body and Engine Type
- EG7: CIVIC 4-door/D13B3
- EG8: CIVIC 4-door/D15B3, D15B7, D15Z1
- EH8: CIVIC 4-door/D12B1
- EH9: CIVIC 4-door/D16A9, D16Y1

Body Type and Transmission Type
- 5: 4-door Sedan 5-speed Manual
- 6: 4-door Sedan 4-speed Automatic

Vehicle Grade (Series)
- 1: 1.2EL (EH8: KT), EL (EG7: KP) 1.5EL: (EG8: KP/KT/KY)
- 2: 1.2EX (EH8: KU) EX (EG8: KP/KT/KY)
- 4: GLi (EG8: KQ)
- 7: VEi (EG8: KQ) Si (EH9: KP/KT/KY)
- 9: VTi (EH9: KQ)

Fixed Code

Auxiliary Number

Factory Code
- S: Suzuka Factory in Japan

Model Year
- 3: 1995

Serial Number

Engine Number

D12B1 – 2300001

Engine Type
- D12B1: 1200 SOHC 16-valves 1-carbureded Engine without CATA
- D13B3: 1300 SOHC 16-valves 1-carbureded Engine without CATA
- D15B3: 1500 SOHC 16-valves 1-carbureded Engine without CATA
- D15B7: 1500 SOHC 16-valves Sequential Multiport Fuel-injected Engine with CATA
- D15Z1: 1500 SOHC 16-valves Sequential Multiport Fuel-injected VTEC-E Engine with CATA
- D16A9: 1600 DOHC 16-valves Sequential Multiport Fuel-injected Engine without CATA
- D16Y1: 1600 SOHC 16-valves Sequential Multiport Fuel-injected VTEC Engine with CATA

Serial Number
- D12B1, D13B3, D15B3, D16A9: 2300001~
- D15B7, D15Z1: 4700001~
- D16Y1: 1100001~

Manual Transmission Number

S20 – 2000001

Transmission Type

Serial Number

Automatic Transmission Number

S24A – 4000001

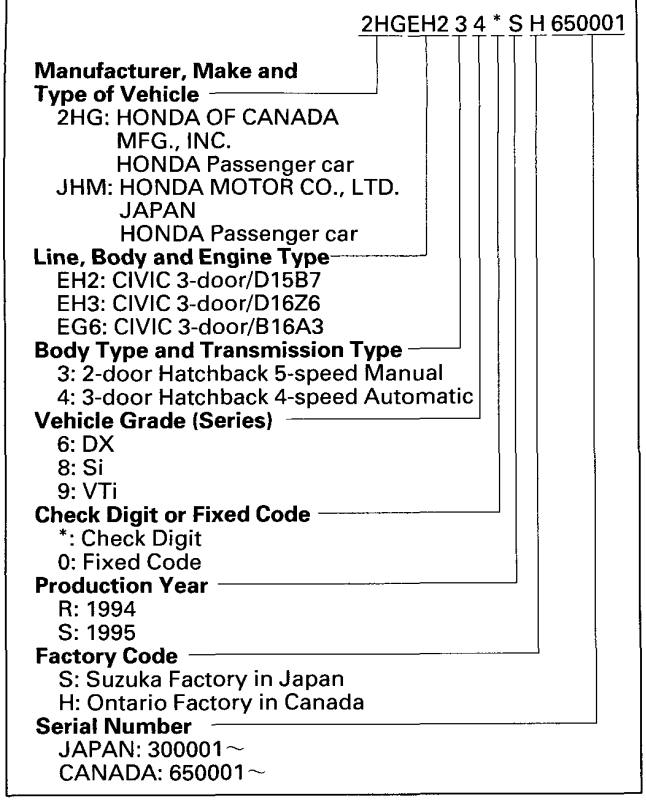
Transmission Type
- S24A: Except D12B1, D15B3, D16A9 engines
- S48A: D12B1, D15B3, D16A9 engines

Serial Number

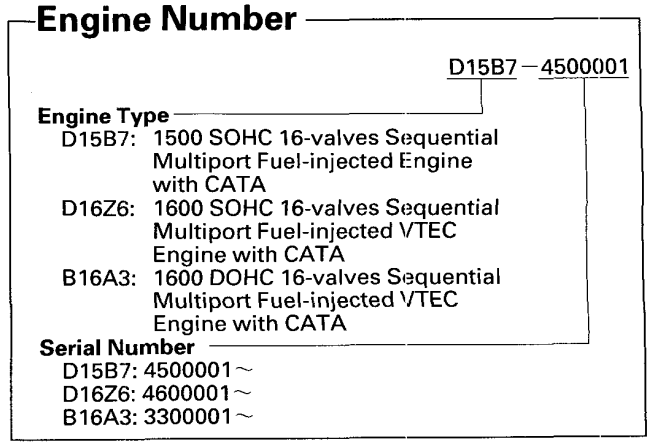
Chassis and Engine Numbers

Except European Model (2-door Hatchback, KM)

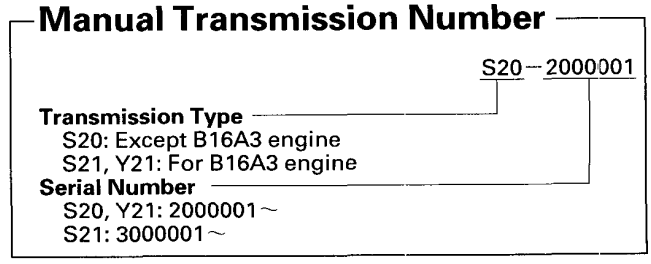
Vehicle Identification Number



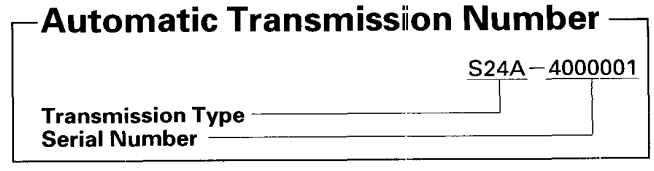
Engine Number


D15B7 – 4500001
Engine Type
D15B7: 1500 SOHC 16-valves Sequential Multiport Fuel-injected Engine with CATA
D16Z6: 1600 SOHC 16-valves Sequential Multiport Fuel-injected VTEC Engine with CATA
B16A3: 1600 DOHC 16-valves Sequential Multiport Fuel-injected VTEC Engine with CATA
Serial Number
D15B7: 4500001~
D16Z6: 4600001~
B16A3: 3300001~

Manual Transmission Number



Automatic Transmission Number



Except European Model (4-door Sedan, KB, KM)

Vehicle Identification Number

1HGEH4 5 4 * S L 700001

Manufacturer, Make and Type of Vehicle
- 1HG: HONDA OF AMERICA MFG., INC. U.S.A. HONDA Passenger car

Line, Body and Engine Type
- EH4: CIVIC 4-door/D15B7
- EH5: CIVIC 4-door/D16Z6, D16Z9

Body Type and Transmission Type
- 5: 4-door Sedan 5-speed Manual
- 6: 4-door Sedan 4-speed Automatic

Vehicle Grade (Series)
- 4: DX, EX (EH4: KB)
- 5: EX with ABS (EH4: KB), LX (EH4: KM)
- 6: EX (EH5: KM)

Check Digit

Model Year or Production Year
- R: Production Year 1994 (KM)
- S: Production Year 1995 (KM) Model Year 1995 (KB)

Factory Code
- L: Ohio Factory in U.S.A. (East Liberty)

Serial Number
- KB: 700001~
- KM: 850001~

Engine Number

D15B7 – 4850001

Engine Type
- D15B7: 1500 SOHC 16-valves Sequential Multiport Fuel-injected Engine with CATA
- D16Z9: 1600 SOHC 16-valves Sequential Multiport Fuel-injected VTEC Engine with CATA
- D16Z6: 1600 SOHC 16-valves Sequential Multiport Fuel-injected VTEC Engine with CATA

Serial Number
- D15B7: 4850001~ (KB), 4500001~ (KM)
- D16Z9: 1100001~ (KB)
- D16Z6: 4600001~ (KM)

Manual Transmission Number

S20 – 2000001

Transmission Type

Serial Number

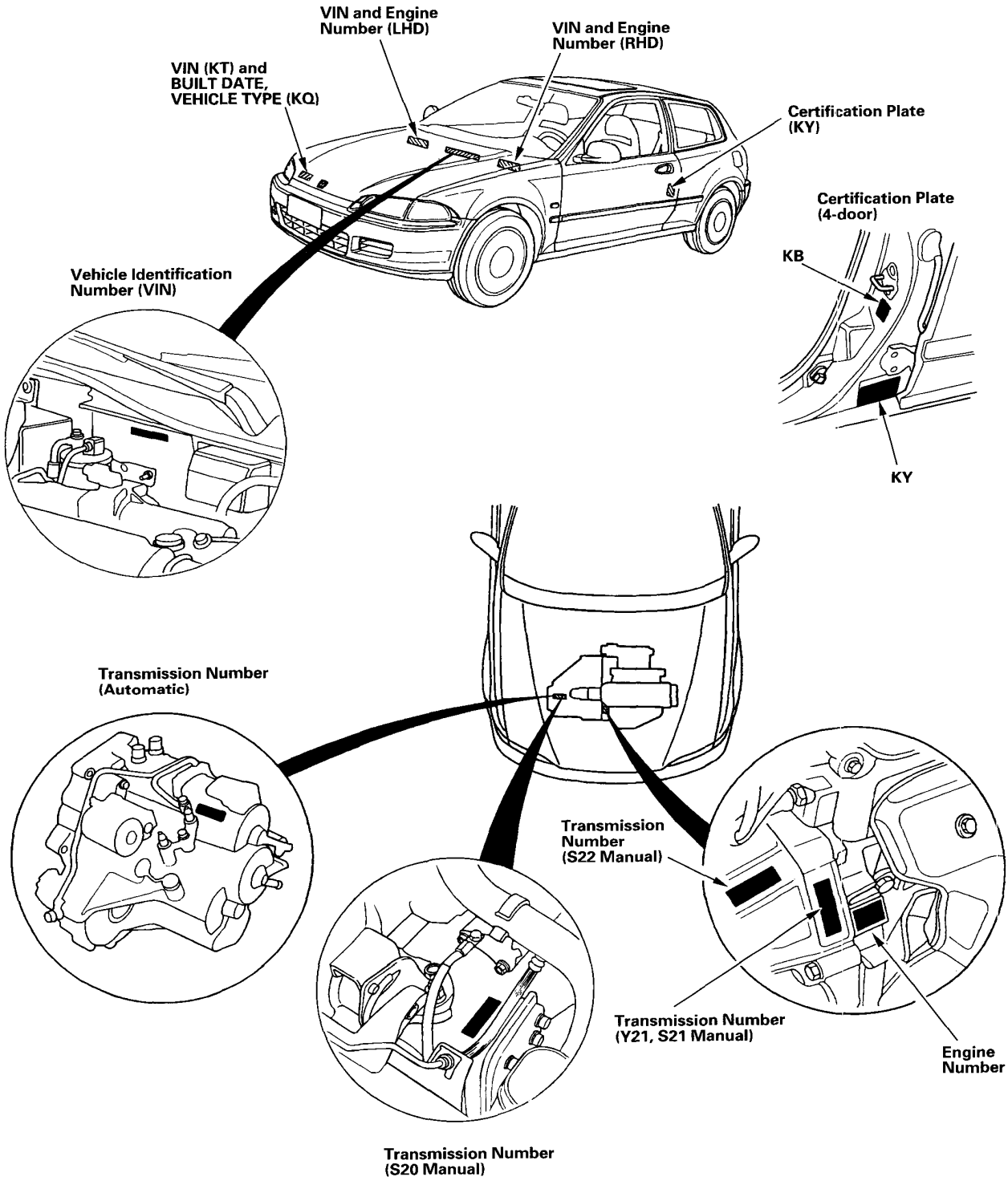
Automatic Transmission Number

S24A – 4000001

Transmission Type

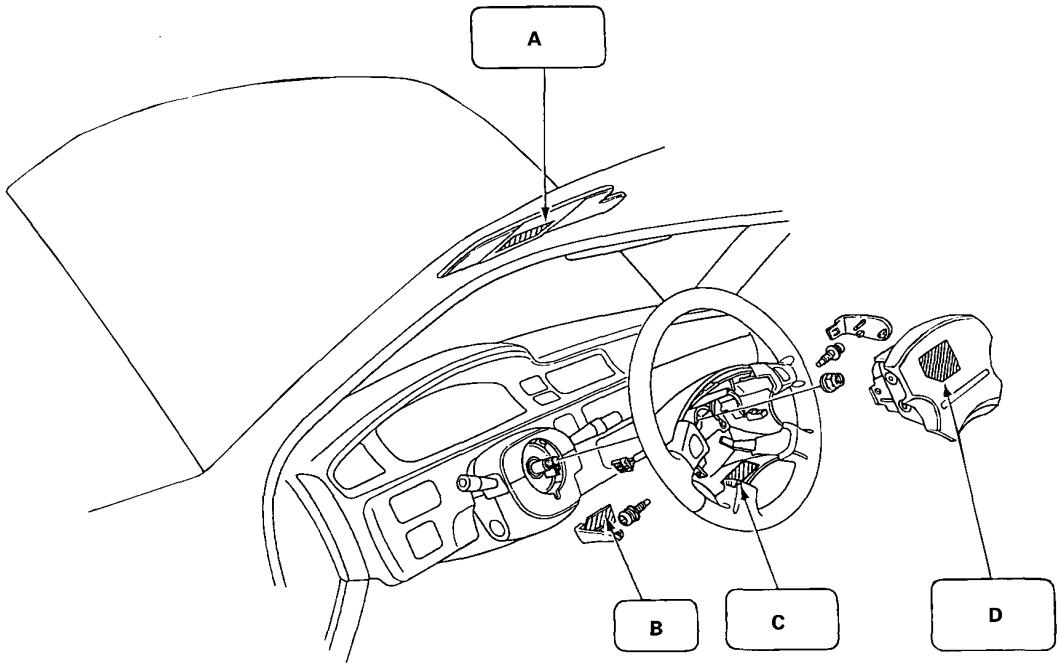
Serial Number

Identification Number Locations



Warning/Caution Label Locations

SRS AIRBAG SYSTEM TYPE-II



A: DRIVER INFORMATION (SUNVISOR)
European models

SRS ALWAYS WEAR YOUR SEAT BELT
- THIS CAR IS EQUIPPED WITH A DRIVER AIRBAG AS A SUPPLEMENTAL RESTRAINT SYSTEM (S.R.S.).
- IT IS DESIGNED TO SUPPLEMENT THE SEAT BELT.
- IF YOUR SRS INDICATOR LIGHTS WHILE DRIVING, SEE YOUR AUTHORIZED HONDA DEALER.

SRS ATTACHEZ TOUJOURS VOTRE CEITURE
- CE VEHICULE EST EQUIPE D'UN COUSSIN D'AIR POUR LE CONDUCTEUR QUI CONSTITUE UN SYSTEME DE RETENUE COMPLEMENTAIRE (S.R.S.).
- CE COUSSIN D'AIR COMPLETE LA FONCTION DE LA CEINTURE DE SECURITE.
- SI LE TEMOIN SRS S'ALLUME PENDANT LA CONDUITE, ADRESSEZ-VOUS A VOTRE CONCESSIONNAIRE HONDA OFFICIEL.

SRS SICHERHEITSGURTE BEI JEDER FAHRT ANLEGEN
- DIESES FAHRZEUG BESITZT EINEN FAHRER-AIRBAG ALS ZUSÄTZLICHES RÜCKHALTESYSTEM (S.R.S.).
- ES IST EINE ERGÄNZUNG ZUM SICHERHEITSGURT.
- WENN DIE SRS-KONTROLLEUCHTE WAHREND DER FAHRT AUFLEUCHTET, UMGEHEND FINEN HONDA HÄNDLER AUFSUCHEN.

SRS DRAAG ALTIJD UW VEILIGHEIDSGORDEL
- DIT VOERTUIG IS UITGERUST MET EEN LUCHTKUSSEN AAN DE BESTUURDERSKANT ALTS EXTRA BESCHERMING (S.R.S.).
- DIT IS ONTWORPEN ALS EXTRA BESCHERMING BIJ DE VEILIGHEIDSGORDEL.
- ALS HEL SRS-WAARSCHUWINGSLAMPJE GAAT BRANDEN ONDER HET RIJDEN. NEEM DAN KONTAKT OP MET EEN HONDA DEALER.

A: DRIVER INFORMATION (SUNVISOR)
Except European models

SRS ALWAYS WEAR YOUR SEAT BELT
- THIS CAR IS EQUIPPED WITH A DRIVER AIRBAG AS A SUPPLEMENTAL RESTRAINT SYSTEM (SRS).
- IT IS DESIGNED TO SUPPLEMENT THE SEAT BELT.
- IF YOUR SRS INDICATOR LIGHTS WHILE DRIVING SEE YOUR AUTHORIZED HONDA DEALER.

B: MAINTENANCE LID CAUTION

注意 SRS
SRSメインテナンスは、イグニッション スイッチを切ってから行うこと。

CAUTION
BEFORE MAINTENANCE, SWITCH OFF THE IGNITION.

ATTENTION
AVANT TOUT ENTRETIEN, COUPER LE CONTACT.

ACHTUNG
VOR WARTUNG ZÜNDUNG AUSSCHALTEN.

LET OP
ZET HET KONTAKTSLOT AF ALVORENS MET HET ONDERHOUD TE BEGINNEN.

(cont'd)

Warning/Caution Label Locations

(cont'd)

C: MONITOR NOTICE

NOTICE SRS
- REFER TO SERVICE MANUAL FOR DETAILED INSTRUCTIONS.

REMARQUE
- POUR LES INSTRUCTIONS DETAILL'EES, SE REPORTER AU MANUEL DE REPARATIONS.

LET OP
- RAADPLEEG HET WERKPLAATSHANDBOEK VOOR NADERE AANWIJZINGEN.

ACHTUNG
- AUSFÜHRLICHE ANWEISUNGEN SIND DEM WERKSTATTHANDBUCH ZU ENTNEHMEN.

D: BODY COVER CAUTION

注意 CAUTION ACHTUNG SRS
- SRSメンテナンス時はサービス マニュアルを参照すること。
- REFER TO THE SERVICE (SHOP) MANUAL.
- SE REPORTER AU MANUEL D'ATELIER.
- WERKSTATTHANDBUCH LESEN.
- LEES HET WERKPLAATSHANDBOEK.

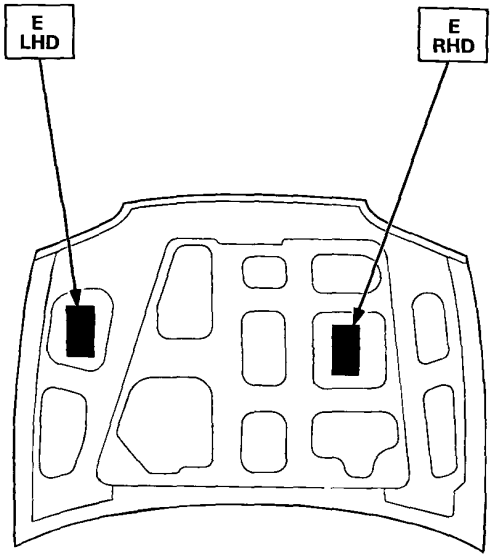
E: SRS WARNING (HOOD) LHD model

WARNING SRS
THIS VEHICLE IS EQUIPPED WITH A DRIVER AIRBAG AS A SUPPLEMENTAL RESTRAINT SYSTEM. (SRS)
ALL S.R.S. ELECTRICAL WIRING AND CONNECTORS ARE COLORED YELLOW.
DO NOT USE ELECTRICAL TEST EQUIPMENT ON THESE CIRCUITS.
TAMPERING WITH OR DISCONNECTING THE S.R.S. WIRING COULD RESULT IN ACCIDENTAL FIRING OF THE INFLATOR OR MAKE THE SYSTEM INOPERATIVE, WHICH MAY RESULT IN SERIOUS INJURY.

ATTENTION SRS
CE VEHICULE EST EQUIPE D'UN COUSSIN D'AIR DU COTE CONDUCTEUR QUI CONSTITUE UN SYSTEME DE RETENUE COMPLEMENTAIRE (S.R.S.).
TOUS LES FILS ET CONNECTEURS ELECTRIQUES DU SYSTEME DE RETENUE COMPLEMENTAIRE (S.R.S.) SONT DE COULEUR JAUNE. N'UTILISEZ PAS UN EQUIPEMENT D'ESSAIS ELECTRIQUES SUR CES CIRCUITS. NE TOUCHEZ PAS ET NE DEBRANCHEZ PAS LES FILS DU SYSTEME S.R.S. CAR CECI POURRAIT DE TRADUIRE PAR LE DECLENCHEMENT ACCIDENTEL DU GONFLEUR OU RENDRE LE SYSTEME INOPERANT ET VOUS EXPOSER AINSI A DE GRAVES BLESSURES.

WARNUNG SRS
DIESES FAHRZEUG IST MIT EINEM FAHRER-AIRBAG (SRS) ALS ZUSÄTZLICHEM RÜCKHALTESYSTEM AUSGERÜSTET.
ALLE ELEKTRISCHEN KABEL, SOWIE DIE ZUGEHÖRIGEN STECKVERBINDER DES S.R.S.-SYSTEMS SIND IN GELBER FARBE AUSGEFÜHRT. KEINE ELEKTRISCHEN PRÜFGERÄTE AN DIE S.R.S.-VERKABELUNG ANSCHLIEBEN. VERÄNDERN ODER UNTERBRECHEN DER S.R.S.-VERKABELUNG KANN UNKONTROLLIERTES ZÜNDEN DES GASGENERATORS AUSLÖSEN.
ODER DAS SYSTEM AUBER FUNKTION SETZEN WAS ZU ERNSTHAFTEN VERLETZUNGEN FÜHREN KANN.

WAARSCHUWING SRS
DIT VOERTUIG IS UITGERUST MET EEN LUCHTKUSSEN AAN DE BESTUURDERSKANT ALS EXTRA BESCHERMING (S.R.S.).
ALLE ELEKTRISCHE LEIDINGEN EN AANSLUITINGEN VAN DE S.R.S. ZIJN GEEL GEKLEURD. GEBRUIK GEEN ELEKTRISCHE TESTAPPARATUUR VOOR DEZE CIRCUITS. KNOEIEN MET OF LOSKOPPELEN VAN DE S.R.S. LEIDINGEN KAN LEIDEN TOT BRAND IN DE VULINRICHTING OF TOT UITSCHAKELEN VAN HET SYSTEEM: DIT KAN TOT ERNSTIGE ONGELUKKEN LEIDEN.



E: SRS WARNING (HOOD) RHD model

SUPPLEMENTAL RESTRAINT SYSTEM (SRS)
THIS VEHICLE IS EQUIPPED WITH A DRIVER SIDE AIRBAG.
ALL SRS ELECTRICAL WIRING AND CONNECTORS ARE COLORED YELLOW.
TAMPERING WITH, DISCONNECTING OR USING ELECTRICAL TEST EQUIPMENT ON THE SRS WIRING CAN MAKE THE SYSTEM INOPERATIVE OR CAUSE ACCIDENTAL FIRING OF THE INFLATOR.

⚠ WARNING
THE AIRBAG INFLATOR IS EXPLOSIVE AND, IF ACCIDENTALLY DEPLOYED, CAN SERIOUSLY HURT YOU. FOLLOW SERVICE (SHOP) MANUAL INSTRUCTIONS CAREFULLY.

E: SRS WARNING (HOOD) KS

WARNING SRS
THIS VEHICLE IS EQUIPPED WITH A AIRBAG SYSTEM AS A SUPPLEMENTAL RESTRAINT SYSTEM (SRS).
ALL S.R.S. ELECTRICAL WIRING AND CONNECTORS ARE COLORED YELLOW.
DO NOT USE ELECTRICAL TEST EQUIPMENT ON THESE CIRCUITS.
TAMPERING WITH OR DISCONNECTING THE S.R.S. WIRING COULD RESULT IN ACCIDENTAL FIRING OF THE INFLATOR OR MAKE THE SYSTEM INOPERATIVE, WHICH MAY RESULT IN SERIOUS INJURY.

VARING SRS
DETTA FORDON HAR EN LUFTKUDDE FÖR FÖRARSÄTET SOM ETT KOMPLETTERANDE SKYDDSSYSTEM (SRS). SAMTLIGA ELLEDNINGAR OCH KONTAKTER I SRS-SYSTEMET ÄR GULFÄRGADE. ANVÄND INTE ELEKTRISK PROVUTRUSTNING FÖR DESSA KRETSAR. OM DU ÄNDRAR ELLER LOSSAR EN SRS-LEDNING KAN DET RESULTERA I EN OAVSIKTLIG UTLÖSNING AV TRYCKPUMPEN ELLER GÖRA ATT SYSTEMET SLUTAR FUNGERA. DÅ KAN EN ALLVARLIG OLYCKA UPPSTÅ.

VAROITUS SRS
TÄSSÄ AUTOSSA ON YLIMÄÄRÄISENÄ TUKIJÄRJESTELMÄNÄ AJAJAN ILMATYYNY. (SRS) KAIKKI SRS-SÄHKÖJOHDOT JA-LIITTIMET OVAT KELTAISET.
ÄLÄ KÄYTÄ SÄHKÖKOELAITTEITA NÄISSÄ VIRTAPIIREISAÄ. SRS-JOHTOJEN TUKKEAMINEN TAI IRROTAAMINEN SAATTAA SYTYTTÄÅ VAHINGOSSA PUMPUN TAI TEHDÄ JÄRJESTELMÄN KÄYTTÖKELVOTTOMAKSI.
TÄSTÄ TAAS SAATTAA AIHEUTUA VAKAVIA VAURIOITA.

تنبيه : (S.R.S.)
تم تجهيز هذه السيارة بكيس هوائي لوقاية السائق كنظام كبح اضافي (S.R.S.).
جميع الأسلاك الكهربائية الخاصة بنظام الكبح الاضافي (S.R.S.) والموصلات ملونة باللون الأصفر.
لا تستعمل معدات اختبار الكهرباء على هذه الدوائر. ان العبث أو فصل أسلاك نظام الكبح الاضافي (S.R.S.) يمكن أن يؤدي للحريق العرضي للنافخ أو يتسبب في تعطيل النظام عن العمل مما يؤدي الى حدوث أضرار خطيرة.

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Warning/Caution Label Locations

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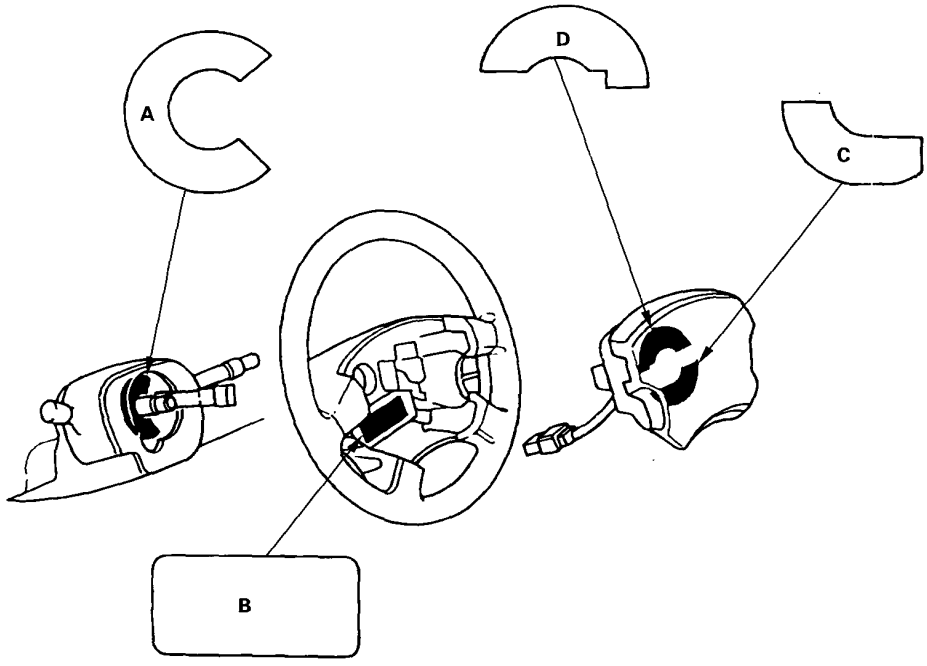
SRS AIRBAG SYSTEM TYPE-III



A: CABLE REAL CAUTION A

SRS
REFER TO SERVICE (SHOP) MANUAL FOR DETAILED INSTRUCTION.

POUR LES INSTRUCTIONS DETAILL'EES, SE REPORTER AU MANUEL DE REPARATIONS.

取扱い、保管はホンダサービスマニュアルを参照してください。

AUSFÜHRLICHE ANMEISUNGEN SIND DEM ZU ENTINEMEN.

RAAD PLEEG HET WERKPLAATSHANDBOEK VOOR NADERE AANWIJZINGEN.

B: STEERING WHEEL NOTICE

NOTICE
IMPROPER STEERING WHEEL REMOVAL OR INSTALLATION CAN DAMAGE SRS COMPONENTS. FOLLOW SERVICE MANUAL INSTRUCTIONS CAREFULLY.

REMARQUE
UN RETRAIT OU UNE REPOSE INCORRECTS DU VOLANT RISQUENT D'ENDOMMAGER LES PIECES CNSTITUTIVES DU SRS. SUIVRE ATIENTIVEMENT LE MANUEL D'ENTRETIEN.

C: DRIVER MODULE WARNING

⚠ WARNING
THE AIRBAG INFLATOR IS EXPLOSIVE AND, IF ACCIDENTALLY DEPLOYED, CAN SERIOUSLY HURT OR KILL YOU.
- DO NOT USE ELECTRICAL TEST EQUIPEMENT OR PROBING DEVICES. THEY CAN CAUSE ACCIDENTAL DEPLOYMENT.
- NO SERVICEABLE PARTS INSIDE. DO NOT DISASSEMBLE.
- PLACE AIRBAG UPRIGHT WHEN REMOVED.
- FOLLOW SERVICE (SHOP) MANUAL INSTRUCTIONS CAREFULLY.

⚠ ATTENTION
LE GONFLEUR DE COUSSIN D'AIR EST EXPLOSIBLE ET S'LL SE DEPLOIE ACCIDENTELLEMENT, IL RISQUE DE PROVOQUER DES BLESSURES GRAVES OU DE TUER.
- NE PAS UTILISER DE MATERIEL D'ESSAI ELECTRIQUE NI DE SONDE. ILS POURRAIENT PROVOQUER UN DEPLOIEMENT ACCIDENTEL DU COUSSIN D'AIR.
- IL N'Y A PAS DE PIECES REPARABLES A L'INTERIEUR. NE PAS DEMONTER.
- QUAND ON RETIRE LE COUSSIN D'AIR, LE TENIR A LA VERTICALE.
- SUIVRE ATTENTIVEMENT LES INSTRUCTIONS DU MANUEL D'ENTRETIEN.

D: DRIVER MODULE DANGER*

⚠ DANGER
EXPLOSIVE/FLAMMABLE
CONTACT WITH ACID, WATER, OR HEAVY METALS SUCH AS COPPER, LEAD, OR MERCURY, MAY PRODUCE HARMFUL AND IRRITATING GASES OR EXPLOSIVE COMPOUNDS. STORAGE TEMPERATURES MUST NOT EXCEED 200°F (100°C). FOR PROPER HANDLING, STORAGE AND DISPOSAL PROCEDURES REFER TO THE HONDA SERVICE (SHOP) MANUAL, SRS SUPPLEMENT.
POISON
CONTAINS POISONOUS SODIUM AZIDE AND POTASSIUM NITRATE.
FIRST AID
IF CONTENTS ARE SWALLOWED, INDUCE VOMITING. FOR EYE CONTACT, FLUSH EYES WITH WATER FOR 15 MINUTES. IF GASES (FROM ACID OR WATER CONTACT) ARE INHALED, SEEK FRESH AIR. IN EVERY CASE, GET PROMPT MEDICAL ATTENTION.
KEEP OUT OF REACH OF CHILDREN.

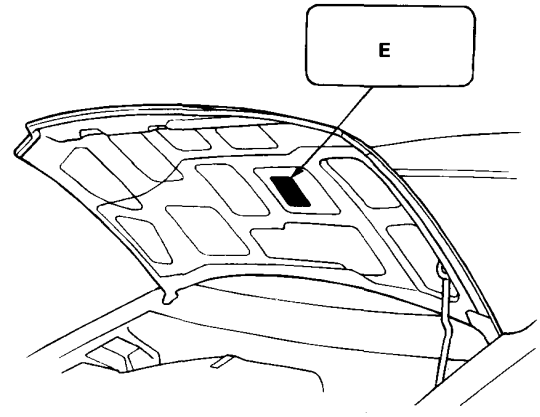
⚠ DANGER
EXPLOSIBLE/INFLAMMABLE
TOUT CONTACT AVEC L'ACIDE, L'EAU OU DES METAUX LOURDS COMME LE CUIVRE, LE PLOMB OU LE MERCURE RISQUE DE PRODUIRE DES GAZ NOCIFS ET IRRITANTS OU DES COMPOSES EXPLOSIFS. LES TEMPERATURES DE RANGEMENT NE DEVRONT PAS DEPASSER 200°F (100°C). POUR LES PROCEDURES DE MANIPULATION, DE RANGEMENT ET DE MISE AU REBUT, VOIR LE SUPPLEMENT SRS DU MANUEL D'ENTRETIEN.
POISON
RENFERME DE L'ACIDE DE SOUDE ET DU NITRATE DE POTASSIUM TOXIQUES.
PREMIERS SECOURS
SI LE CONTENU EST ABSORBE, INDUIRE UN VOMISSEMENT. EN CAS DE CONTACT AVEC LES YEUX, LAVER A GRANDE EAU PENDANT UN QUART D'HEURE. EN CAS D'INHALATION DES GAZ (PAR CONTACT AVEC L'ACIDE OU L'EAU), ALLER A L'AIR FRAIS. DANS TOUS LES CAS, OBTENIR PROMPTEMENT DES SOINS MEDICAUX.
TENIR HORS DE PORTEE DES ENFANTS.

*Label D location: Refer to page 1-11.

E: SRS WARNING (HOOD)

SUPPLEMENTAL RESTRAINT SYSTEM (SRS)
THIS VEHICLE IS EQUIPPED WITH A DRIVER AND FRONT SEAT PASSENGER AIRBAG.
ALL SRS ELECTRICAL WIRING AND CONNECTORS ARE COLORED YELLOW.
TAMPERING WITH, DISCONNECTING OR USING ELECTRICAL TEST EQUIPMENT ON THE SRS WIRING CAN MAKE THE SYSTEM INOPERATIVE OR CAUSE ACCIDENTAL FIRING OF THE INFLATOR.

⚠ WARNING
THE AIRBAG INFLATOR IS EXPLOSIVE AND, IF ACCIDENTALLY DEPLOYED, CAN SERIOUSLY HURT YOU. FOLLOW SERVICE (SHOP) MANUAL INSTRUCTIONS CAREFULLY.



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Warning/Caution Label Locations

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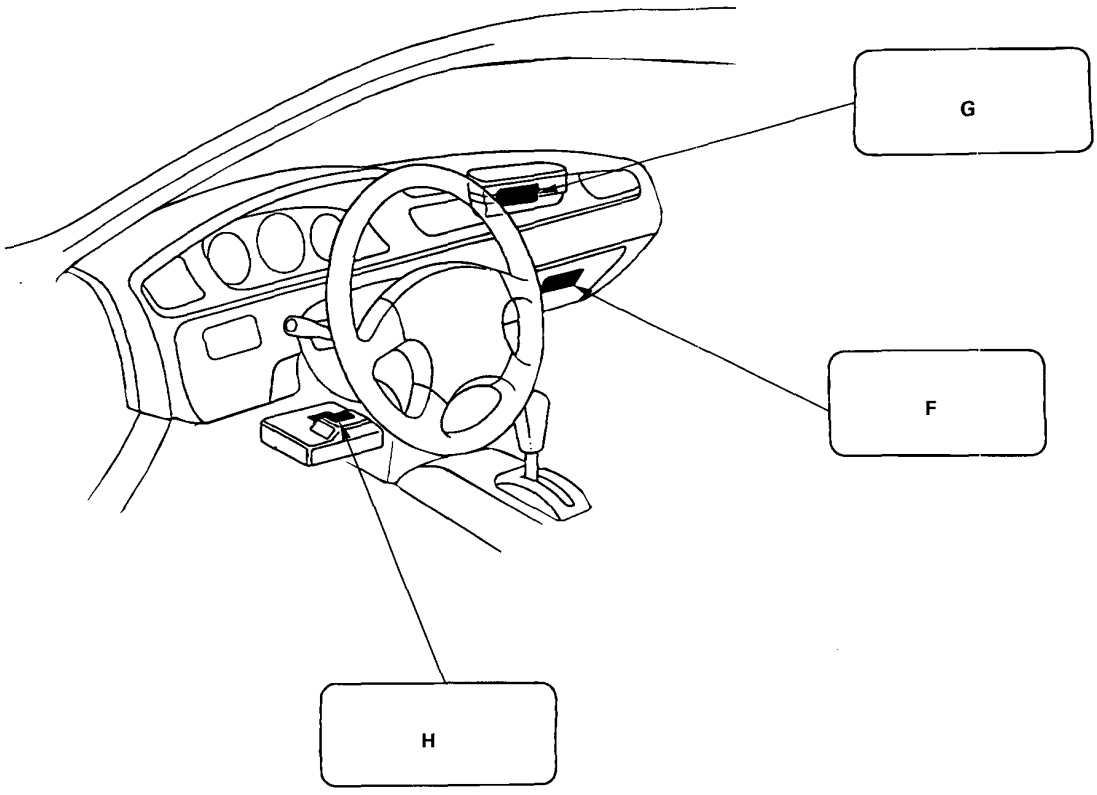

F: GLOVE BOX INFORMATION

AIRBAG INFORMATION
SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

- THE SRS MUST BE INSPECTED TEN YEARS AFTER IT IS INSTALLED. THE DATE OF INSTALLATION IS SHOWN ON THE CERTIFICATION PLATE, LOCATED ON THE DRIVER'S DOOR JAMB.
- DIAGNOSTIC CHECKS AND REPLACEMENT OF SRS COMPONENTS MUST BE DONE BY AN AUTHORIZED DEALER.
- SEE YOUR OWNER'S MANUAL FOR ADDITIONAL SRS INFORMATION.

G: FRONT SEAT PASSENGER AIRBAG MODULE DANGER

⚠ DANGER EXPLOSIVE/FLAMMABLE CONTACT WITH ACID, WATER, OR HEAVY METALS SUCH AS COPPER, LEAD OR MERCURY MAY PRODUCE HARMFUL AND IRRITATING GASES OR EXPLOSIVE COMPOUNDS. STORAGE TEMPERATURE MUST NOT EXCEED 200°F (100°C). FOR PROPER HANDLING, STORAGE AND DISPOSAL PROCEDURES REFER TO SERVICE (SHOP) MANUAL, SRS SUPPLEMENT. POISON CONTAINS POISONOUS SODIUM AZIDE AND POTASSIUM NITRATE. FIRST AID IF CONTENTS ARE SWALLOWED, INDUCE VOMITING. FOR EYE CONTACT, FLUSH EYES WITH WATER FOR 15 MINUTES. IF GASES (FROM ACID OR WATER CONTACT) ARE INHALED, SEEK FRESH AIR, IN EVERY CASE, GET PROMPT MEDICAL ATTENTION. KEEP OUT OF REACH OF CHILDREN.	⚠ DANGER EXPLOSIBLE/INFLAMMABLE TOUT CONTACT AVEC L'ACIDE, L'EAU OU DES METAUX LOURDS COMME LE CUIVRE, LE PLOMB OU LE MERCURE RISQUE DE PRODUIRE DES GAZ NOCIFS ET IRRITANTS OU DES COMPOSES EXPLOSIFS. LES TEMPERATURES DE RANGEMENT NE DEVRONT PAS DEPASSER 200°F (100°C). POUR LES PROCEDURES DE MANIPULATION, DE RANGEMENT ET DE MISE AU REBUT, VOIR LE SUPPLEMENT SRS DU MANUEL D'ENTRETIEN. POISON RENFERME DE L'ACIDE DE SOUDE ET DU NITRATE DE POTASSIUM TOXIQUES. PREMIERS SECOURS SI LE CONTENU EST ABSORBE, INDUIRE UN VOMISSEMENT. EN CAS DE CONTACT AVEC LES YEUX, LAVER A GRANDE EAU PENDANT UN QUART D'HEURE. EN CAS D'INHALATION DES GAZ (PAR CONTACT AVEC L'ACIDE OU L'EAU). ALLER A L'AIR FRAIS. DANS TOUS LE CAS, OBETENIR PROMPTEMENT DES SOINS MEDICAUX. TENIR HORS DE PORTEE DES ENFANTS.
⚠ WARNING THE AIRBAG INFLATOR IS EXPLOSIVE AND, IF ACCIDENTALLY DEPLOYED, CAN SERIOUSLY HURT OR KILL YOU. • DO NOT USE ELECTRICAL TEST EQUIPEMENT OR PROBING DEVICES. THEY CAN CAUSE ACCIDENTAL DEPLOYMENT. • NO SERVICEABLE PARTS INSIDE. DO NOT DISASSEMBLE. • PLACE AIRBAG UPRIGHT WHEN REMOVED. • FOLLOW SERVICE (SHOP) MANUAL INSTRUCTIONS CAREFULLY.	⚠ ATTENTION LE GONFLEUR DE COUSSIN D'AIR EST EXPLOSIBLE ET S'LL SE DEPLOIE ACCIDENTELLEMENT, IL RISQUE DE PROVOQUER DES BLESSURES GRAVES OU DE TUER. • NE PAS UTILISER DE MATERIEL D'ESSAI ELECTRIQUE NI DE SONDE. ILS POURRAIENT PROVOQUER UN DEPLOIEMENT ACCIDENTEL DU COUSSIN D'AIR. • IL N'Y A PAS DE PIECES REPARABLES A L'INTERIEUR. NE PAS DEMONTER. • QUAND ON RETIRE LE COUSSIN D'AIR, LE TENIR A LA VERTICALE. • SUIVRE ATTENTIVEMENT LES INSTRUCTIONS DU MANUEL D'ENTRETIEN.

H: MONITOR NOTICE

NOTICE SRS • NO SERVICEABLE PARTS INSIDE. • REFER TO SERVICE (SHOP) MANUAL FOR DETAILED INSTRUCTIONS. お願い • 分解しないでください。 • 取扱い、保管はサービスマニュアルを参照してください。 REMARQUE • AUCUNE PIECE REPARABLE A L'INTERIEUR. • POUR LES INSTRUCTIONS DETAILL'EES, SE REPORTER AU MANUEL DE REPARATIONS.	LET OP • GEEN ONDERDELEN BINNEN DEZE UNIT WAARAAN WERKZAAMHEDEN KUNNEN WORDEN VERRICHT. • RAADPLEEG HET WERKPLAATSHANDBOEX VOOR NADERE AANWIJZINGEN. ACHTUNG • DIE INNENTILE BEDÜRFEN KEINER WARTUNG. • AUSFÜHRLICHE ANWEISUNGEN SIND DEM WERKSTATTHANBUCH ZU ENTNEHMEN.

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Warning/Caution Label Locations

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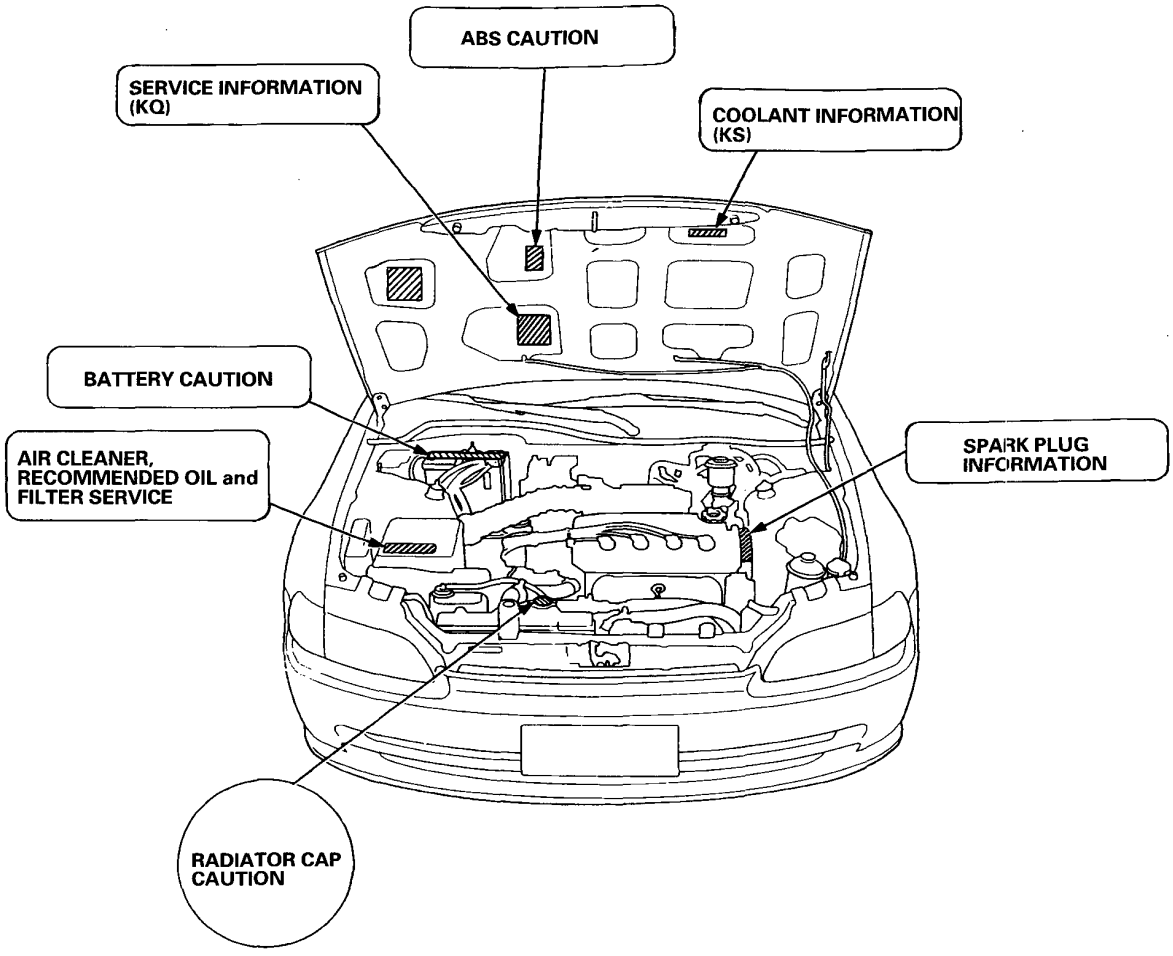
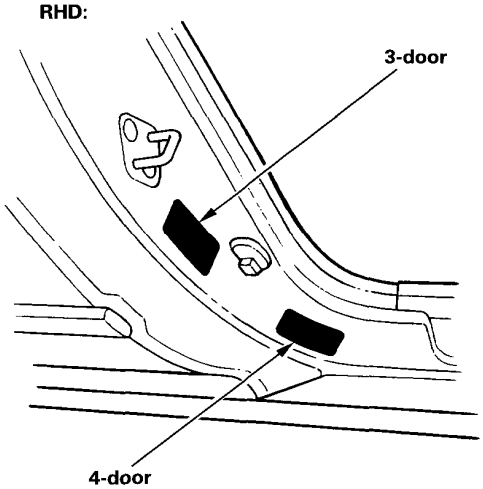


TIRE INFORMATION

RHD:



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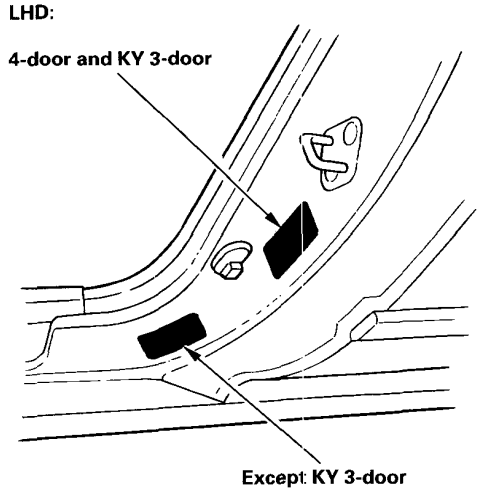


Special Tools

Individual tool lists are located at the front of each section.

Specifications

Standards and Service Limits.....3-2
Design Specifications.....3-38
Body Specifications.....3-48

Standards and Service Limits

Cylinder Head/Valve Train — Section 6
D12B1, D13B2, D13B3, D15B2, D15B3, D15B7, D15Z2, D16A7 Engines

	MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Compression	250 min^{-1} (rpm) and wide open throttle kPa (kg/cm^2, psi)	Nominal Minimum Maximum variation	1,300 (13.0, 185) 950 (9.5, 135) 200 (2.0, 28)	
Cylinder head	Warpage Height		— 94.95—95.05 (3.738—3.742)	0.05 (0.002) —
Camshaft	End play Camshaft-to-holder oil clearance Total runout Cam lobe height	D12B1, D13B2, D13B3 IN EX D15B3 IN EX D15B2 IN EX D16A7 IN EX D15B7, D15Z2 IN EX	0.05—0.15 (0.002—0.006) 0.050—0.089 (0.0020—0.0035) 0.03 (0.001) max. 35.472 (1.3965) 35.693 (1.4052) 36.603 (1.4411) 36.747 (1.4467) 36.603 (1.4411) 36.750 (1.4468) 36.782 (1.4481) 36.947 (1.4546) 36.057 (1.4196) 36.198 (1.4251)	0.5 (0.02) 0.15 (0.006) 0.04 (0.002) — — — — — — — — — —
Valve	Valve clearance Valve stem O. D. Stem-to-guide clearance	IN EX IN EX IN EX	0.18—0.22 (0.007—0.009) 0.23—0.27 (0.009—0.011) 5.480—5.490 (0.2157—0.2161) 5.450—5.460 (0.2146—0.2150) 0.02—0.05 (0.001—0.002) 0.05—0.08 (0.002—0.003)	— — 5.450 (0.2146) 5.420 (0.2134) 0.08 (0.003) 0.11 (0.004)
Valve seat	Width Stem installed height	IN EX IN EX	0.85—1.15 (0.033—0.045) 1.25—1.55 (0.049—0.061) 46.985—47.455 (1.8498—1.8683) 48.965—49.435 (1.9278—1.9463)	1.60 (0.063) 2.00 (0.079) 47.705 (1.8781) 49.685 (1.9561)
Valve spring	Free length	D12B1, D13B2, D13B3 IN EX D15B2, D15B3, D16A7 IN EX D15B7, D15Z2 IN EX	47.97 (1.889) 49.19 (1.937) 48.58 (1.913) 49.19 (1.937) 51.90 (2.043) *1 51.88 (2.043) *2 55.28 (2.176) *1 55.31 (2.178) *2	— — — — — — — —
Valve guide	I. D. Installed height	IN EX IN EX	5.51—5.53 (0.217—0.218) 5.51—5.53 (0.217—0.218) 15.95—16.45 (0.628—0.648) 15.95—16.45 (0.628—0.648)	5.55 (0.219) 5.55 (0.219) — —
Rocker arm	Arm-to-shaft clearance	IN EX	0.017—0.050 (0.0007—0.0020) 0.018—0.054 (0.0007—0.0021)	0.08 (0.003) 0.08 (0.003)

*1: NIHON HATSUJO manufactured valve spring. *2: CHUO HATSUJO manufactured valve spring.

Unit of length:mm (in)

Cylinder Head/Valve Train—Section 6
D15Z1, D16Z7, D16Y1 Engines

	MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Compression	250 min^{-1} (rpm) and wide open throttle kPa (kg/cm^2, psi)	Nominal Minimum Maximum variation	1,300 (13.0, 185) 1,150 (11.5, 164) 200 (2.0, 28)	
Cylinder head	Warpage Height		— 92.95—93.05 (3.659—3.663)	0.05 (0.002) —
Camshaft	End play Camshaft-to-holder oil clearance Total runout Cam lobe height D15Z1	IN Primary Secondary EX	0.05—0.15 (0.002—0.006) 0.050—0.089 (0.0020—0.0035) 0.03 (0.001) max. 38.427 (1.5129) 32.292 (1.2713) 37.997 (1.4959)	0.5 (0.02) 0.15 (0.006) 0.04 (0.002) — — —
	Except D15Z1	IN Primary Mid Secondary EX	35.900 (1.4134) 38.107 (1.5003) 36.195 (1.4250) 38.008 (1.4964)	— — — —
Valve	Valve clearance	IN EX	0.18—0.22 (0.007—0.009) 0.23—0.27 (0.009—0.011)	— —
	Valve stem O. D.	IN EX	5.480—5.490 (0.2157—0.2161) 5.450—5.460 (0.2146—0.2150)	5.450 (0.2146) 5.420 (0.2134)
	Stem-to-guide clearance	IN EX	0.02—0.05 (0.001—0.002) 0.05—0.08 (0.002—0.003)	0.08 (0.003) 0.12 (0.005)
Valve seat	Width	IN EX	0.85—1.15 (0.033—0.045) 1.25—1.55 (0.049—0.061)	1.60 (0.063) 2.00 (0.079)
	Stem installed height	IN EX	53.165—53.635 (2.0931—2.1116) 53.165—53.635 (2.0931—2.1116)	53.885 (2.1215) 53.885 (2.1215)
Valve spring	Free length D15Z1	IN EX	54.78 (2.157) 58.23 (2.293) *1 58.26 (2.294) *2	— — —
	Except D15Z1	IN EX	57.97 (2.282) 58.41 (2.300)	— —
Valve guide	I. D.	IN EX	5.51—5.53 (0.217—0.218) 5.51—5.53 (0.217—0.218)	5.60 (0.220) 5.60 (0.220)
	Installed height	IN EX	17.85—18.35 (0.703—0.722) 18.65—19.15 (0.734—0.754)	— —
Rocker arm	Arm-to-shaft clearance	IN EX	0.017—0.050 (0.0007—0.0020) 0.018—0.054 (0.0007—0.0021)	0.08 (0.003) 0.08 (0.003)

*1: NIHON HATSUJO manufactured valve spring. *2: CHUO HATSUJO manufactured valve spring.

Standards and Service Limits

Cylinder Head/Valve Train — Section 6
D16A9 Engine

	MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Compression	250 min^{-1} (rpm) and wide open throttle kPa (kg/cm^2, psi)	Nominal Minimum Maximum variation	1,350 (13.5, 192) 950 (9.5, 135) 200 (2.0, 28)	
Cylinder head	Warpage Height		— 131.95—132.05 (5.195—5.199)	0.05 (0.002) —
Camshaft	End play Camshaft-to-holder oil clearance Total runout Cam lobe height	 IN EX	0.05—0.15 (0.002—0.006) 0.050—0.089 (0.0020—0.0035) 0.03 (0.001) max. 33.021 (1.3000) 32.382 (1.2749)	0.5 (0.02) 0.15 (0.006) 0.04 (0.002) — —
Valve	Valve clearance Valve stem O. D. Stem-to-guide clearance	IN EX IN EX IN EX	0.13—0.17 (0.005—0.007) * 0.15—0.19 (0.006—0.007) * 6.580—6.590 (0.2591—0.2594) 6.550—6.560 (0.2579—0.2583) 0.02—0.05 (0.001—0.002) 0.05—0.08 (0.002—0.003)	— — 6.550 (0.2579) 6.520 (0.2567) 0.08 (0.003) 0.11 (0.004)
Valve seat	Width Stem installed height	IN EX IN EX	1.25—1.55 (0.049—0.061) 1.25—1.55 (0.049—0.061) 45.545—46.015 (1.7931—1.8116) 44.735—45.205 (1.7612—1.7797)	2.00 (0.079) 2.00 (0.079) 46.265 (1.8215) 45.455 (1.7896)
Valve spring	Free length	IN EX	47.49 (1.870) 46.89 (1.846)	— —
Valve guide	I. D. Installed height	IN and EX IN and EX	6.61—6.63 (0.260—0.261) 19.15—19.65 (0.754—0.774)	6.65 (0.262) —

*: Measuring point between camshaft and rocker arm.

Unit of length:mm (in)

Cylinder Head/Valve Train— Section 6
B16A2, B16A3 Engines

	MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Compression	250 min^{-1} (rpm) and wide open throttle kPa (kg/cm^2, psi)	Nominal Minimum Maximum variation	1,550 (15.5, 220) 950(9.5, 135) 200(2.0, 28)	
Cylinder head	Warpage Height		— 141.95—142.05 (5.589—5.593)	0.05 (0.002) —
Camshaft	End play Camshaft-to-holder oil clearance Total runout Cam lobe height	IN Primary Mid Secondary EX Primary Mid Secondary	0.05—0.15 (0.002—0.006) 0.050—0.089 (0.0020—0.0035) 0.03 (0.001) max. 33.088 (1.3027) 36.267 (1.4278) 34.978 (1.3771) 32.785 (1.2907) 35.720 (1.4063) 34.691 (1.3658)	0.5 (0.02) 0.15 (0.006) 0.04 (0.002) — — — — — —
Valve	Valve clearance Valve stem O. D. Stem-to-guide clearance	IN EX IN EX IN EX	0.15—0.19 (0.006—0.007) * 0.17—0.21 (0.007—0.008) * 5.475—5.485 (0.2156—0.2159) 5.450—5.460 (0.2146—0.2150) 0.025—0.055 (0.0010—0.0022) 0.050—0.080 (0.0020—0.0031)	— — 5.445 (0.2144) 5.420 (0.2134) 0.08 (0.003) 0.11 (0.004)
Valve seat	Width Stem installed height	IN EX IN EX	1.25—1.55 (0.049—0.061) 1.25—1.55 (0.049—0.061) 37.465—37.935 (1.4750—1.4935) 37.165—37.635 (1.4632—1.4817)	2.00 (0.079) 2.00 (0.079) 38.185 (1.5033) 37.885 (1.4915)
Valve spring	Free length	IN OUTER INNER EX	40.92 (1.611) *1 40.91 (1.611) *2 36.71 (1.445) 41.96 (1.652) *1 41.94 (1.651) *2	— — — — —
Valve guide	I. D. Installed height	IN EX IN EX	5.51—5.53 (0.217—0.218) 5.51—5.53 (0.217—0.218) 12.55—13.05 (0.494—0.514) 12.55—13.05 (0.494—0.514)	5.55 (0.219) 5.55 (0.219) — —
Rocker arm	Arm-to-shaft clearance	IN EX	0.025—0.052 (0.0010—0.0020) 0.025—0.052 (0.0010—0.0020)	0.08 (0.003) 0.08 (0.003)

*: Measuring point between camshaft and rocker arm.
*1: NIHON HATSUJO manufactured valve spring. *2: CHUO HATSUJO manufactured valve spring.

Standards and Service Limits

Engine Block — Section 7
Except B16A2, B16A3 Engines

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Cylinder block	Warpage of deck surface	0.07 (0.003) max.	0.10 (0.004)
	Bore diameter	75.00—75.02 (2.953—2.954)	75.07 (2.956)
	Bore taper	—	0.05 (0.002)
	Reboring limit	—	0.5 (0.02)
Piston	Skirt O. D. At 16 mm (0.6 in) from bottom of skirt	74.980—74.990 (2.9520—2.9524)	74.970 (2.9516)
	Clearance in cylinder	0.010—0.040 (0.0004—0.0016)	0.05 (0.002)
	Groove width (for ring)		
	Top D15Z1	1.020—1.030 (0.0402—0.0406)	1.05 (0.041)
	Except D15Z1	1.220—1.230 (0.0480—0.0484)	1.25 (0.049)
	Second D15Z1	1.220—1.230 (0.0480—0.0484)	1.25 (0.049)
	Except D15Z1	1.520—1.530 (0.0598—0.0602)	1.55 (0.061)
	Oil D15Z1, D16Z6, D16Z7, D16Y1	2.805—2.820 (0.1104—0.1110)	2.85 (0.112)
	D15Z2, D15B2, D15B7, D16A7, D16A9	2.805—2.825 (0.1104—0.1112)	2.85 (0.112)
	D12B1, D13B2, D13B3, D15B3	4.005—4.025 (0.1577—0.1585)	4.05 (0.159)
Piston ring	Ring-to-groove clearance Top D15Z1	0.035—0.060 (0.0014—0.0024)	0.13 (0.005)
	Except D15Z1	0.030—0.055 (0.0012—0.0022)*1	0.13 (0.005)
		0.030—0.060 (0.0012—0.0024)*2, *3	0.13 (0.005)
	Second D15Z1	0.035—0.060 (0.0014—0.0024)*1	0.13 (0.005)
		0.030—0.055 (0.0012—0.0022)*2	0.13 (0.005)
	Except D15Z1	0.030—0.055 (0.0012—0.0022)	0.13 (0.005)
	Ring end gap Top	0.15—0.30 (0.006—0.012)	0.60 (0.024)
	Second	0.30—0.45 (0.012—0.018)	0.70 (0.028)
	Oil D15Z1	0.20—0.50 (0.008—0.020) *1	0.70 (0.028)
		0.20—0.70 (0.008—0.028) *2	0.80 (0.031)
	D16Z6, D16Y1	0.20—0.50 (0.008—0.020) *1	0.70 (0.028)
		0.20—0.80 (0.008—0.031) *2	0.90 (0.035)
	D16Z7	0.20—0.50 (0.008—0.020)	0.70 (0.028)
	Except D15Z1, D16Z6, D16Z7, D16Y1	0.20—0.80 (0.008—0.031)	0.90 (0.035)
Piston pin	O. D.	18.994—19.000 (0.7478—0.7480)	—
	Pin-to-piston clearance	0.010—0.022 (0.0004—0.0009)	—
Connecting rod	Pin-to-rod interference	0.014—0.040 (0.0006—0.0016)	—
	Small end bore diameter	18.96—18.98 (0.746—0.747)	—
	Large end bore diameter		
	Nominal D12B1, D13B2, D13B3	43.0(1.69)	—
	D15B2, D15B3, D15B7, D15Z1, D15Z2	45.0 (1.77)	—
	D16A7, D16A9, D16Z6, D16Z7, D16Y1	48.0 (1.89)	—
	End play installed on crankshaft	0.15—0.30 (0.006—0.012)	0.40 (0.016)
Crankshaft	Main journal diameter		
	D12B1, D13B2, D13B3, D15B2, D15B3, D15B7, D15Z1,D15Z2	44.976—45.000 (1.7707—1.7717)	—
	D16A7, D16A9, D16Z6, D16Z7, D16Y1	54.976—55.000 (2.1644—2.1654)	—
	Rod journal diameter		
	D12B1, D13B2, D13B3	39.976—40.000 (1.5739—1.5748)	—
	D15B2, D15B3, D15B7, D15Z1, D15Z2	41.976—42.000 (1.6526—1.6535)	—
	D16A7, D16A9, D16Z6, D16Z7, D16Y1	44.976—45.000 (1.7707—1.7717)	—
	Taper	0.0025 (0.00010) max.	0.005 (0.0002)
	Out-of round	0.0025 (0.00010) max.	0.005 (0.0002)
	End play	0.10—0.35 (0.004—0.014)	0.45 (0.018)
	Total runout	0.03 (0.001) max.	0.04 (0.002)
Bearings	Main bearing-to-journal oil clearance		
	No. 1 and 5 journals	0.018—0.036 (0.0007—0.0014)	0.05 (0.002)
	No. 2, 3 and 4 journals	0.024—0.042 (0.0009—0.0017)	0.05 (0.002)
	Rod bearing-to-journal oil clearance	0.020—0.038 (0.0008—0.0015)	0.05 (0.002)

*1: TEIKOKU PISTON RING manufactured piston ring.
*2: RIKEN manufactured piston ring.
*3: ALLIED RING CORP manufactured piston ring

Unit of length:mm (in)

Engine Block—Section 7
B16A2 Engine

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Cylinder block	Warpage of deck surface	0.05 (0.002)	0.08 (0.003)
	Bore diameter	81.000—81.020 (3.1890—3.1898)	81.070 (3.1917)
	Bore taper	—	0.05 (0.002)
	Reboring limit	—	0.25 (0.010)
Piston	Skirt O.D. At 15 mm (0.59 in) from bottom of skirt	80.980—80.990 (3.1882—3.1886)	80.970 (3.1878)
	Clearance in cylinder	0.010—0.035 (0.0004—0.0014)	0.05 (0.002)
	Ring groove width Top	1.030—1.040 (0.0406—0.0409)	1.060 (0.0417)
	2nd	1.230—1.240 (0.0484—0.0488)	1.260 (0.0496)
	Oil	2.805—2.820 (0.1104—0.1110)	2.840 (0.118)
Piston ring	Piston-to-ring clearance Top	0.045—0.070 (0.0018—0.0028)	0.13 (0.005)
	2nd	0.040—0.065 (0.0016—0.0026)	0.13 (0.005)
	Ring end gap Top	0.20—0.35 (0.008—0.014)	0.60 (0.024)
	2nd	0.40—0.55 (0.016—0.022)	0.70 (0.028)
	Oil	0.20—0.50 (0.008—0.020)	0.80 (0.031)
Piston pin	Diameter	20.994—21.000 (0.8265—0.8268)	—
	Pin-to-piston clearance	0.010—0.022 (0.0004—0.0009)	—
Connecting rod	Pin-to-rod interference	0.013—0.032 (0.0005—0.0013)	—
	Small end bore diameter	20.968—20.981 (0.8255—0.8260)	—
	Large end bore diameter Nominal	48.0 (1.89)	—
	End play installed on crankshaft	0.15—0.30 (0.006—0.012)	0.40 (0.016)
Crankshaft	Main journal diameter		
	No. 1, 2, 4 and 5 journals	54.976—55.000 (2.1644—2.1654)	—
	No. 3 journal	54.970—54.994 (2.1642—2.1651)	—
	Rod journal diameter	44.976—45.000 (1.7707—1.7717)	—
	Journal taper	0.005 (0.0002) max.	0.010 (0.0004)
	Journal out of round	0.004 (0.0002) max.	0.006 (0.0002)
	End play	0.10—0.35 (0.004—0.014)	0.45 (0.018)
	Total runout	0.020 (0.0008) max.	0.030 (0.0012)
Bearing	Main bearing-to-journal oil clearance		
	No. 1, 2, 4 and 5 journals	0.024—0.042 (0.0009—0.0017)	0.05 (0.002)
	No. 3 journal	0.030—0.048 (0.0012—0.0019)	0.06 (0.002)
	Rod bearing-to-journal oil clearance	0.032—0.050 (0.0013—0.0020)	0.06 (0.002)

Standards and Service Limits

Engine Lubrication—Section 8
Except B16A2, B16A3 Engines

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Engine oil	Capacity ℓ (US qt, Imp qt) Except D16A9 D16A9	4.0 (4.2, 3.5) for engine overhaul 3.3 (3.5, 2.9) for oil change, including filter 3.0 (3.2, 2.6) for oil change, without filter 4.3 (4.5, 3.8) for engine overhaul 3.5 (3.7, 3.1) for oil change, including filter 3.2 (3.4, 2.8) for oil change, without filter	
Oil pump	Inner-to-outer rotor radial clearance Housing-to-outer rotor radial clearance Housing-to-rotor axial clearance	0.02—0.14 (0.001—0.006) 0.10—0.18 (0.004—0.007) 0.03—0.08 (0.001—0.003)	0.20 (0.008) 0.20 (0.008) 0.15 (0.006)
Relief valve	Pressure setting 80°C (176°F) kPa (kg/cm², psi) at idle at 3,000 min^{-1} (rpm)	70 (0.7, 10) min. 350 (3.5, 50) min.	

Engine Lubrication—Section 8
B16A2, B16A3 Engines

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Engine oil	Capacity ℓ (US qt, Imp qt)	4.8 (5.1, 4.2) for engine overhaul 4.0 (4.2, 3.5) for oil change, including oil filter 3.7 (3.9, 3.3) for oil change, without filter	
Oil pump	Inner-to-outer rotor radial clearance Housing-to-rotor radial clearance Housing-to-rotor axial clearance	0.04—0.16 (0.002—0.006) 0.10—0.19 (0.004—0.007) 0.02—0.07 (0.001—0.003)	0.20 (0.008) 0.20 (0.008) 0.15 (0.006)
Relief valve	Pressure setting 80°C (176°F) kPa (kg/cm², psi) at idle at 3,000 min^{-1} (rpm)	70 (0.7, 10) min. 350 (3.5, 50) min.	

Cooling—Section 10

Unit of length:mm (in)

	MEASUREMENT		STANDARD (NEW)
Radiator	Coolant capacity ℓ (US qt, Imp qt) including engine, heater, cooling line and reservoir Reservoir capacity: 0.4 ℓ (0.42 US qt, 0.35 Imp qt)	M/T	B16A2 4.8 (5.1, 4.2) for overhaul 3.9 (4.1, 3.4) for coolant change Except B16A2, D15Z1 4.5 (4.8, 4.0) for overhaul 3.6 (3.8, 3.2) for coolant change D15Z1 4.4 (4.6, 3.9) for overhaul 3.5 (3.7, 3.1) for coolant change
		A/T	D12B1, D15B2, D15B3, D15B7 4.4 (4.6, 3.9) for overhaul 3.5 (3.7, 3.1) for coolant change D16A9, D16Z6, D16Z7, D16Y1 4.7 (5.0, 4.1) for overhaul 3.8 (4.0, 3.3) for coolant change
Radiator cap	Opening pressure kPa (kg/cm², psi)		95—125 (0.95—1.25, 13.5—18)
Thermostat	Start to opening °C (°F)	D15Z1	80—84 (176—183)
		Except D15Z1	76—80 (169—176)
	Fully open °C (°F)	D15Z1	95 (203)
		Except D15Z1	90 (194)
	Valve lift at fully open		8.0 (0.31) min.
Radiator fan	Thermoswitch "ON" temperature	°C (°F)	91.0—95.0 (196—203)
	Thermoswitch "OFF" temperature	°C (°F)	Subtract 3—8 (37—46) from actual "ON" temperature.

Standards and Service Limits

Fuel and Emissions (Carbureted Engine)—Section 11

	MEASUREMENT	STANDARD (NEW)	
Fuel pump	Displacement/60 seconds cm³ (fl oz, Imp oz) Relief valve opening pressure kPa (kg/cm², psi)	833.3 (28.18, 29.33) min. 7—23 (0.07—0.23, 1.0—3.3) min.	
Fuel tank	Capacity ℓ (US gal, Imp gal)	45 (11.9, 9.9)	
Engine	Idle speed with headlight and cooling fan off min⁻¹ (rpm)	M/T: Neutral	A/T: [N] or [P] position
	D12B1, D15B3	800 ± 50	1,000 ± 50
	D13B2,D15Z2	800 ± 50	—
	D13B3	900 ± 50	—
	Idle CO %	With CATA 0.5 max. Without CATA 1.0 max.	

Fuel and Emissions (PGM-FI Engine)—Section 11

	MEASUREMENT	STANDARD (NEW)	
Fuel pump	Displacement/10 seconds cm³ (fl oz, Imp oz) Relief valve opening pressure kPa (kg/cm², psi)	120 (4.1, 4.2) min. 450—600 (4.5—6.0, 64—85) min.	
Pressure regulator	Pressure with regulator vacuum hose disconnected kPa (kg/cm², psi) D15B2	245—285 (2.45—2.85, 35—41)	
	Except D15B2	280—330 (2.8—3.3, 40—47)	
Fuel tank	Capacity ℓ (US gal, Imp gal)	45 (11.9, 9.9)	
Engine	Idle speed with headlight and cooling fan off min⁻¹ (rpm)	M/T: Neutral	A/T: [N] or [P] position
	D15B2	810 ± 50	810 ± 50
	D15B7	750 ± 50	750 ± 50
	D16A9, D16Z6, D16Z7, D16Y1	750 ± 50	750 ± 50
	D15Z1	700 ± 50	—
	D16A7	710 ± 50	—
	B16A2, B16A3	750 ± 50	—
	Idle CO %	With CATA 0.1 max. Without CATA 1.0 ± 1.0	

Clutch—Section 12

	MEASUREMENT		STANDARD(NEW)	SERVICE LIMIT
Clutch pedal	Pedal height	to floor	164.0 (6.46)	—
	Stroke		130.0—140.0 (5.12—5.51)	—
	Total free play		12—21 (0.5—0.8)	—
	Disengagement height	to floor	83.0 (3.27) min.	—
		to carpet	55.0 (2.17) min. Reference	—
Flywheel	Clutch surface runout		0.05 (0.002) max.	0.15 (0.006)
Clutch disc	Rivet depth		1.30 (0.051) min.	0.20 (0.008)
	Thickness		8.4—9.1 (0.33—0.36)	6.0 (0.24)
Pressure plate	Warpage		0.03 (0.001) max.	0.15 (0.006)
	Diaphragm spring finger alignment		0.8 (0.03) max.	1.0 (0.04)

2WD Manual Transmission S20—Section 13

Unit of length: mm (in)

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Transmission oil	Capacity ℓ (US qt, Imp qt)	1.9 (2.0, 1.7) for overhaul 1.8 (1.9, 1.6) for oil change	
Mainshaft	End play	0.11—0.18 (0.004—0.007)	Adjust
	Diameter of ball bearing contact area A (Transmission housing side)	21.987—22.000 (0.8656—0.8661)	21.930 (0.8634)
	Diameter of 4th, 5th gear contact area B	26.980—26.993 (1.0622—1.0627)	26.930 (1.0602)
	Diameter of 3rd gear contact area C	33.989—34.000 (1.3381—1.3386)	33.930 (1.3358)
	Diameter of ball bearing contact area D (Clutch housing side)	25.977—25.990 (1.0227—1.0232)	25.920 (1.0205)
	Runout	0.02 (0.001) max.	0.05 (0.002)
Mainshaft 3rd and 4th gears	I. D.	39.009—39.025 (1.5358—1.5364)	39.07 (1.538)
	End play 3rd	0.06—0.21 (0.002—0.008)	0.33 (0.013)
	4th	0.06—0.19 (0.002—0.007)	0.31 (0.012)
	Thickness 3rd	30.22—30.27 (1.190—1.192)	30.15 (1.187)
	4th	30.12—30.17 (1.186—1.188)	30.05 (1.183)
Mainshaft 5th gear	I. D.	37.009—37.025 (1.4570—1.4577)	37.07 (1.459)
	End play	0.06—0.19 (0.002—0.007)	0.31 (0.012)
	Thickness	28.42—28.47 (1.119—1.121)	28.35 (1.116)
Countershaft	Diameter of needle bearing contact area A	30.000—30.015 (1.1811—1.1817)	29.950 (1.1791)
	Diameter of 1st gear contact area B	35.989—36.000 (1.4169—1.4173)	35.930 (1.4146)
	Diameter of ball bearing contact area C	24.980—24.993 (0.9835—0.9840)	24.930 (0.9815)
	Runout	0.02 (0.001) max.	0.05 (0.002)
Countershaft 1st gear	I. D.	41.009—41.025 (1.6145—1.6152)	41.07 (1.617)
	End play (When tightened by the specified torque)	0.03—0.10 (0.001—0.004)	0.22 (0.009)
	Thickness	30.41—30.44 (1.197—1.198)	30.36 (1.195)
Countershaft 2nd gear	I. D.	44.009—44.025 (1.7326—1.7333)	44.07 (1.735)
	End play (When tightened by the specified torque)	0.03—0.11 (0.001—0.004)	0.23 (0.009)
	Thickness	31.92—31.97 (1.257—1.259)	31.85 (1.254)
Spacer collar (Countershaft 2nd gear)	I. D.	33.000—33.010 (1.2992—1.2996)	33.05 (1.301)
	O. D.	38.989—39.000 (1.5350—1.5354)	38.93 (1.533)
	Length	32.03—32.06 (1.261—1.262)	32.01 (1.260)
Spacer collar (Mainshaft 4th and 5th gear)	I. D.	27.002—27.012 (1.0631—1.0635)	27.06 (1.065)
	O. D. 4th	33.989—34.000 (1.3381—1.3386)	33.93 (1.336)
	5th	31.984—32.000 (1.2592—1.2598)	31.93 (1.257)
	Length 4th	22.83—22.86 (0.899—0.900)	22.81 (0.898)
	5th	23.53—23.56 (0.926—0.928)	23.51 (0.926)
Reverse idler gear	I. D.	15.016—15.043 (0.5912—0.5922)	15.08 (0.594)
	Gear-to-reverse gear shaft clearance	0.032—0.077 (0.0013—0.0030)	0.14 (0.006)
Synchro ring	Ring-to-gear clearance (Ring pushed against gear)	0.73—1.18 (0.029—0.046)	0.40 (0.016)
Shift fork	Fork finger thickness	6.40—6.50 (0.252—0.256)	—
	Fork-to-synchro sleeve clearance	0.25—0.45 (0.010—0.018)	0.80 (0.031)
Reverse shift fork	Fork pawl groove width	12.7—13.0 (0.50—0.51)	—
	Fork-to-reverse idler gear clearance	0.50—1.10 (0.020—0.043)	1.80 (0.071)
	L-groove width	7.05—7.25 (0.278—0.285)	—
	Fork-to-5th/reverse shift piece pin clearance	0.05—0.35 (0.002—0.014)	0.5 (0.02)

(cont'd)

Standards and Service Limits

2WD Manual Transmission S20 (cont'd)—Section 13

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Shift arm A	Inner diameter of shift arm C contact point	13.05—13.13 (0.514—0.517)	—
	Shift arm A-to-shift arm C clearance	0.05—0.23 (0.002—0.009)	0.35 (0.014)
Shift arm B	Inner diameter of shift arm shaft contact point	13.973—14.000 (0.5501—0.5512)	—
	Shift arm B-to-shaft clearance	0.013—0.070 (0.0005—0.0028)	0.16 (0.006)
	Shift arm B-to-shift piece clearance	0.20—0.50 (0.008—0.020)	0.620 (0.0244)
	Diameter of shift piece contact point	12.90—13.00 (0.508—0.512)	12.780 (0.5031)

2WD Manual Transmission Y21 (S21)—Section 13

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Transmission oil	Capacity ℓ (US qt, Imp qt)	2.3 (2.4, 2.0) for overhaul 2.2 (2.3, 1.9) for oil change	
Mainshaft	End play	0.11—0.18 (0.004—0.007)	Adjust
	Diameter of ball bearing contact area A (Clutch housing side)	27.977—27.990 (1.1015—1.1020)	27.930 (1.0996)
	Diameter of 3rd gear contact area B	37.984—38.000 (1.4954—1.4961)	37.930 (1.4933)
	Diameter of ball bearing contact area C (Transmission housing side)	27.987—28.000 (1.1018—1.1024)	27.940 (1.1000)
	Runout	0.02 (0.001) max.	0.05 (0.002)
Mainshaft 3rd and 4th gears	I. D.	43.009—43.025 (1.6933—1.6939)	43.08 (1.696)
	End play	0.06—0.21 (0.002—0.008)	0.3 (0.01)
	Thickness 3rd	34.92—34.97 (1.375—1.377)	34.80 (1.370)
	4th	31.42—31.47 (1.237—1.239)	31.30 (1.232)
Mainshaft 5th gear	I. D.	43.009—43.025 (1.6933—1.6939)	43.08 (1.696)
	End play	0.06—0.21 (0.002—0.008)	0.3 (0.01)
	Thickness	31.42—31.47 (1.237—1.239)	31.30 (1.232)
Countershaft	Diameter of ball bearing contact area A	24.980—24.993 (0.9835—0.9840)	24.940 (0.9819)
	Diameter of 1st gear contact area B	36.984—37.000 (1.4561—1.4567)	36.930 (1.4539)
	Diameter of needle bearing contact area C	33.000—33.015 (1.2992—1.2998)	32.950 (1.2972)
	Runout	0.02 (0.001) max.	0.05 (0.002)
Countershaft 1st gear	I. D.	42.009—42.025 (1.6539—1.6545)	42.08 (1.657)
	End play (When tightened by the specified torque)	0.045—0.205 (0.0018—0.0081)	0.265 (0.0104)
Countershaft 2nd gear	I. D.	47.009—47.025 (1.8507—1.8514)	47.08 (1.854)
	End play (When tightened by the specified torque)	0.070—0.140 (0.0028—0.0055)	0.200 (0.0079)
	Thickness	28.920—28.970 (1.1386—1.1405)	28.80 (1.134)
Spacer collar (Countershaft 2nd gear)	I. D.	36.48—36.49 (1.436—1.437)	36.50 (1.437)
	O. D.	41.989—42.000 (1.6531—1.6535)	41.94 (1.651)
	Length	29.070—29.090 (1.1445—1.1453)	—
Spacer collar (Mainshaft 4th and 5th gear)	I. D.	31.002—31.012 (1.2205—1.2209)	31.06 (1.223)
	O. D.	37.989—38.000 (1.4956—1.4961)	37.94 (1.494)
	Length	56.450—56.550 (2.2224—2.2264)	—
	4th/5th gear side	26.03—26.08 (1.025—1.027)	—

2WD Manual Transmission Y21 (S21)—Section 13

Unit of length: mm (in)

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Reverse idler gear	I. D. Gear-to-reverse gear shaft clearance	20.016—20.043 (0.7880—0.7891) 0.036—0.084 (0.0014—0.0033)	20.090 (0.7909) 0.16 (0.006)
Synchro ring	Ring-to-gear clearance (Ring pushed against gear)	0.85—1.10 (0.033—0.043)	0.40 (0.016)
Double cone synchro ring	Clearance (Ring pushed against gear) Outer synchro ring-to-gear Synchro cone-to-gear Outer synchro ring-to-synchro cone	 0.95—1.68 (0.037—0.066) 0.5—1.0 (0.02—0.04) 0.5—1.0 (0.02—0.04)	 0.60 (0.024) 0.3 (0.01) 0.3 (0.01)
Shift fork	Fork finger thickness Fork-to-synchro sleeve clearance	7.40—7.60 (0.291—0.299) 0.35—0.65 (0.014—0.026)	— 1.0 (0.04)
Reverse shift fork	Fork pawl groove width Fork-to-reverse idler gear clearance L-groove width At 5th gear side At reverse side Fork-to-5th/reverse shift piece pin clearance At 5th gear side At reverse side	13.00—13.30 (0.512—0.524) 0.5—1.1 (0.02—0.04) 7.4—7.7 (0.29—0.30) 7.05—7.25 (0.278—0.285) 0.4—0.9 (0.02—0.04) 0.05—0.45 (0.002—0.018)	— 1.8 (0.07) — — — —
Shift piece	Shift piece-to-shift arm clearance Groove width of shift arm contact area Shift-piece-to-shift fork shaft clearance Width of shift fork contact area	0.10—0.30 (0.004—0.012) 8.10—8.20 (0.319—0.323) 0.20—0.50 (0.008—0.020) 11.90—12.00 (0.469—0.472)	0.6 (0.02) — 0.6 (0.02) —
Select arm	Select arm-to-interlock clearance Select arm-to-shim clearance	0.05—0.25 (0.002—0.010) 0.010—0.20 (0.0004—0.008)	0.5 (0.02) —
Interlock	Width of select arm contact area	9.90—10.00 (0.390—0.394)	—
Change piece	Change piece-to-shift arm holder clearance Groove width of shift arm holder contact area Change piece-to-select arm clearance Groove width of select arm contact area	0.05—0.35 (0.002—0.014) 12.05—12.15 (0.474—0.478) 0.05—0.35 (0.002—0.014) 12.05—12.15 (0.474—0.478)	0.8 (0.03) — 0.8 (0.03) —

Standards and Service Limits

4WD Manual Transmission S22 – Section 13

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Transmission oil	Capacity ℓ (US qt, Imp qt)	2.8 (3.0, 2.5) for overhaul 2.2 (2.3, 1.9) for oil change	
Mainshaft	End play	0.08–0.15 (0.003–0.006)	Adjust
	Diameter of 63/28C ball bearing contact area A	27.977–27.990 (1.1015–1.1020)	27.920 (1.0992)
	Diameter of 3rd gear contact area B	34.984–35.000 (1.3773–1.3780)	34.930 (1.3752)
	Diameter of 6306/25 ball bearing contact area C	24.987–25.000 (0.9837–0.9843)	24.930 (0.9815)
	Diameter of 4th/5th spacer collar contact area	27.987–28.000 (1.1018–1.1024)	27.930 (1.0996)
	Runout	0.02 (0.001) max.	0.05 (0.002)
Mainshaft 3rd gear	I. D.	40.009–40.025 (1.5752–1.5758)	40.07 (1.578)
	End play	0.06–0.21 (0.002–0.008)	0.30 (0.012)
	Thickness	32.42–32.47 (1.276–1.278)	32.30 (1.272)
Mainshaft 4th gear	I. D.	40.009–40.025 (1.5752–1.5758)	40.07 (1.578)
	End play	0.06–0.21 (0.002–0.008)	0.30 (0.012)
	Thickness	30.92–30.97 (1.217–1.219)	30.80 (1.213)
Mainshaft 5th gear	I. D.	40.009–40.025 (1.5752–1.5758)	40.07 (1.578)
	End play	0.06–0.21 (0.002–0.008)	0.30 (0.012)
	Thickness	30.42–30.47 (1.198–1.200)	30.30 (1.193)
Countershaft	Diameter of needle bearing contact area A	29.000–29.015 (1.1417–1.1423)	28.940 (1.1394)
	Diameter of super-low 3rd gear contact area B	36.464–36.480 (1.4356–1.4362)	36.41 (1.433)
	Diameter of ball bearing contact area C	24.987–25.000 (0.9837–0.9843)	24.930 (0.9815)
	Runout	0.02 (0.001) max.	0.05 (0.002)
Countershaft 1st gear	I. D.	50.009–50.025 (1.9689–1.9695)	50.07 (1.971)
	End play (When tightened by the specified torque)	0.03–0.08 (0.001–0.003)	0.180 (0.0071)
	Thickness	32.95–33.00 (1.297–1.299)	32.83 (1.293)
Countershaft 2nd gear	I. D.	50.009–50.025 (1.9689–1.9695)	50.07 (1.971)
	End play (When tightened by the specified torque)	0.03–0.08 (0.001–0.003)	0.180 (0.0071)
	Thickness	32.92–32.97 (1.296–1.298)	32.8 (1.29)
Mainshaft 4th and 5th gear distance collar	I. D.	28.002–28.012 (1.1024–1.1028)	28.06 (1.105)
	O. D.	34.989–35.000 (1.3775–1.3780)	34.93 (1.375)
	Length	26.03–26.08 (1.025–1.027)	26.01 (1.024)
Countershaft 2nd gear distance collar	I. D.	36.48–36.49 (1.436–1.437)	36.54 (1.439)
	O. D.	43.989–44.000 (1.7318–1.7323)	43.93 (1.730)
	Length	28.95–29.05 (1.140–1.144)	Adjust
Reverse idler gear	I. D.	20.016–20.043 (0.7880–0.7891)	20.08 (0.791)
	Gear-to-shaft clearance	0.036–0.084 (0.0014–0.0033)	0.14 (0.006)
Super-low 1st shaft	Distance of needle bearing contact area	23.984–23.993 (0.9443–0.9446)	23.93 (0.942)
Super-low 3rd gear	Diameter of needle bearing contact area	43.984–44.000 (1.7317–1.7323)	43.93 (1.730)
	Width of needle bearing contact area	31.03–31.08 (1.222–1.224)	31.01 (1.221)

4WD Manual Transmission S22—Section 13

Unit of length: mm (in)

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Transfer shaft	Diameter of needle bearing contact area	54.000—54.015 (2.1260—2.1266)	53.94 (2.124)
	Diameter of taper bearing contact area	16.989—17.000 (0.6689—0.6693)	16.93 (0.667)
	Diameter of drive bevel gear contact area	24.979—25.000 (0.9834—0.9843)	24.92 (0.981)
	Runout	0.02 (0.001)	0.05 (0.002)
Transfer drive bevel gear	I. D.	25.000—25.021 (0.9843—0.9851)	25.06 (0.987)
	Diameter of taper bearing contact area	35.002—35.018 (1.3780—1.3787)	34.95 (1.376)
Transfer driven bevel gear	Backlash	0.10—0.15 (0.004—0.006)	Adjust
	Diameter of taper bearing contact area		
	Transfer driven gear side	35.002—35.018 (1.3780—1.3787)	34.95 (1.376)
	Locknut side	27.987—28.000 (1.1018—1.1024)	27.93 (1.100)
Synchro ring	Ring-to-gear clearance (Ring pushed against gear)	0.85—1.10 (0.033—0.043)	0.4 (0.02)
1st/2nd shift fork and 3rd/4th shift fork	Synchro sleeve groove width	7.95—8.05 (0.313—0.317)	—
	Shift fork-to-synchro sleeve clearance		
	Thrust	0.45—0.65 (0.018—0.026)	1.0 (0.04)
	Radial	0.05—0.45 (0.002—0.018)	0.8 (0.03)
	Shift fork finger thickness	7.4—7.5 (0.29—0.30)	—
5th shift fork	Synchro sleeve groove width	5.95—6.05 (0.234—0.238)	—
	Shift fork-to-synchro sleeve clearance		
	Thrust	0.45—0.65 (0.018—0.026)	1.0 (0.04)
	Radial	0.05—0.45 (0.002—0.018)	0.8 (0.03)
Reverse shift fork	Fork pawl thickness	13.0—13.3 (0.51—0.52)	—
	Fork-to-reverse idler gear clearance	0.25—0.84 (0.010—0.033)	—
	L-groove width	7.05—7.25 (0.278—0.285)	—
	Fork-to-5th/reverse shift piece pin clearance	0.05—0.35 (0.002—0.014)	0.5 (0.02)
Shift arm A	Diameter of shift piece contact area	12.90—13.00 (0.508—0.512)	—
	Shift arm-to-shift piece clearance	0.2—0.5 (0.01—0.02)	0.7 (0.03)
	I. D.	16.000—16.068 (0.6299—0.6326)	—
	Shift arm-to-shaft clearance	0.011—0.092 (0.0004—0.0036)	—
Shift arm	Diameter of shift arm A contact area	11.90—12.00 (0.469—0.472)	—
	Select arm-to-shift arm A clearance	0.05—0.25 (0.002—0.010)	0.5 (0.02)
Select arm	Diameter of shift arm A contact area	7.95—8.00 (0.313—0.315)	—
	Select arm-to-shift arm A clearance	0.10—0.25 (0.004—0.010)	0.5 (0.02)
Super-low shift fork	Synchro sleeve groove width	5.95—6.05 (0.234—0.238)	—
	Fork-to-synchro sleeve clearance		
	Thrust	0.45—0.65 (0.018—0.026)	1.0 (0.04)
	Radial	0.05—0.45 (0.002—0.018)	0.8 (0.03)

Standards and Service Limits

2WD Automatic Transmission M48A—Section 14

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Transmission fluid	Capacity ℓ (US qt, Imp qt)	5.4 (5.7, 4.8) for overhaul 2.4 (2.5, 2.1) for fluid change	
Hydraulic pressure kPa (kg/cm², psi) D12B1	Line pressure at 2,000 min⁻¹ (rpm) [N] or [P] position	800—850 (8.0—8.5, 114—121)	750 (7.5, 107)
	2nd clutch pressure at 2,000 min⁻¹ (rpm) [D4] position	420 (4.2, 60) throttle fully closed ⋮ 800—850 (8.0—8.5, 114—121) throttle more than 1/4 opened	370 (3.7, 53) throttle fully closed ⋮ 750 (7.5, 107) throttle more than 1/4 opened
	3rd clutch pressure at 2,000 min⁻¹ (rpm) [D4] position		
	4th clutch pressure at 2,000 min⁻¹ (rpm) [D4] position		
	2nd clutch pressure at 2,000 min⁻¹ (rpm) [2] position	800—850 (8.0—8.5, 114—121)	750 (7.5, 107)
	1st clutch pressure at 2,000 min⁻¹ (rpm) [D4] or [D3] position	800—850 (8.0—8.5, 114—121)	750 (7.5, 107)
	Governor pressure at 60 km/h (38 mph)	151—161 (1.51—1.61, 21—23)	146 (1.46, 21)
	Throttle pressure B Throttle fully closed Throttle fully open	 0 800—850 (8.0—8.5, 114—121)	 — 750 (7.5, 107)
	Throttle pressure A Throttle fully closed Throttle fully open	 0—5 (0—0.05, 0—0.7) 515—530 (5.15—5.3, 73—75)	 — 510 (5.1, 73)
Hydraulic pressure kPa (kg/cm², psi) D15B3	Line pressure at 2,000 min⁻¹ (rpm) [N] or [P] position	850—900 (8.5—9.0, 121—128)	800 (8.0, 114)
	2nd clutch pressure at 2,000 min⁻¹ (rpm) [D4] position	420 (4.2, 60) throttle fully closed ⋮ 850—900 (8.5—9.0, 121—128) throttle more than 1/4 opened	370 (3.7, 53) throttle fully closed ⋮ 800 (8.0, 114) throttle more than 1/4 opened
	3rd clutch pressure at 2,000 min⁻¹ (rpm) [D4] position		
	4th clutch pressure at 2,000 min⁻¹ (rpm) [D4] position		
	2nd clutch pressure at 2,000 min⁻¹ (rpm) [2] position	850—900 (8.5—9.0, 121—128)	800 (8.0, 114)
	1st clutch pressure at 2,000 min⁻¹ (rpm) [D4] or [D3] position	850—900 (8.5—9.0, 121—128)	800 (8.0, 114)
	Governor pressure at 60 km/h (38 mph)	151—161 (1.51—1.61, 21—23)	146 (1.46, 21)
	Throttle pressure B Throttle fully closed Throttle fully open	 0 800—850 (8.0—8.5, 114—121)	 — 750 (7.5, 107)
	Throttle pressure A Throttle fully closed Throttle fully open	 0—5 (0—0.05, 0—0.7) 515—530 (5.15—5.3, 73—75)	 — 510 (5.1, 73)

2WD Automatic Transmission M48A—Section 14

Unit of length: mm (in)

	MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Hydraulic pressure kPa (kg/cm², psi) D16A9	Line pressure at 2,000 min⁻¹ (rpm) [N] or [P] position		850—900 (8.5—9.0, 121—128)	800 (8.0, 114)
	2nd clutch pressure at 2,000 min⁻¹ (rpm) [D4] position		420 (4.2, 60) throttle fully closed ⏐ 850—900 (8.5—9.0, 121—128) throttle more than 1/4 opened	370 (3.7, 53) throttle fully closed ⏐ 800 (8.0, 114) throttle more than 1/4 opened
	3rd clutch pressure at 2,000 min⁻¹ (rpm) [D4] position			
	4th clutch pressure at 2,000 min⁻¹ (rpm) [D4] position			
	2nd clutch pressure at 2,000 min⁻¹ (rpm) [2] position		850—900 (8.5—9.0, 121—128)	800 (8.0, 114)
	1st clutch pressure at 2,000 min⁻¹ (rpm) [D4] or [D3] position		850—900 (8.5—9.0, 121—128)	800 (8.0, 114)
	Governor pressure at 60 km/h (38 mph)		151—161 (1.51—1.61, 21—23)	146 (1.46, 21)
	Throttle pressure B	Throttle fully closed Throttle fully open	0 800—850 (8.0—8.5, 114—121)	— 750 (7.5, 107)
	Throttle pressure A	Throttle fully closed Throttle fully open	0—5 (0—0.05, 0—0.7) 495—510 (4.95—5.1, 70—73)	— 490 (4.9, 70)
Stall speed min⁻¹ (rpm) (check with car on level ground)			2,600	2,300—2,900
Clutch	Clutch initial clearance	1st, 2nd 3rd, 4th	0.65—0.85 (0.026—0.033) 0.40—0.60 (0.016—0.024)	— —
	Clutch return spring free length	1st 2nd, 3rd, 4th	31.0 (1.22) 30.5 (1.20)	29.0 (1.14) 28.5 (1.12)
	Clutch disc thickness		1.88—2.00 (0.074—0.079)	Until grooves worn out
	Clutch plate thickness	1st 2nd, 3rd, 4th	1.55—1.65 (0.061—0.065) 1.95—2.05 (0.077—0.081)	Discoloration Discoloration
	Clutch end plate thickness D12B1, D15B3	MARK1 MARK2 MARK3 MARK4 MARK5 MARK11 MARK12 MARK13 MARK14 MARK15 MARK16	2.20—2.30 (0.087—0.091) 2.50—2.60 (0.098—0.102) 2.80—2.90 (0.110—0.114) 3.10—3.20 (0.122—0.126) 3.40—3.50 (0.134—0.138) 2.05—2.15 (0.081—0.085) 2.35—2.45 (0.093—0.096) 2.65—2.75 (0.104—0.108) 2.95—3.05 (0.116—0.120) 3.25—3.35 (0.128—0.132) 3.55—3.65 (0.140—0.144)	Discoloration ⏐ Discoloration
	Clutch end plate thickness D16A9	MARK1 MARK2 MARK3 MARK4 MARK5 MARK6 MARK7 MARK8 MARK9 MARK10 MARK11 MARK12 MARK13	2.30—2.40 (0.091—0.094) 2.40—2.50 (0.094—0.098) 2.50—2.60 (0.098—0.102) 2.60—2.70 (0.102—0.106) 2.70—2.80 (0.106—0.110) 2.80—2.90 (0.110—0.114) 2.90—3.00 (0.114—0.118) 3.00—3.10 (0.118—0.122) 3.10—3.20 (0.122—0.126) 3.20—3.30 (0.126—0.130) 2.00—2.10 (0.079—0.083) 2.10—2.20 (0.083—0.087) 2.20—2.30 (0.087—0.091)	Discoloration ⏐ Discoloration

(cont'd)

Standards and Service Limits

2WD Automatic Transmission M48A (cont'd)—Section 14

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Transmission	Diameter of needle bearing contact area		
	On mainshaft and stator shaft	19.980—19.993 (0.7866—0.7871)	Wear or damage
	On mainshaft 2nd gear	35.975—35.991 (1.4163—1.4170)	
	On mainshaft 4th gear collar	31.975—31.991 (1.2589—1.2595)	
	On mainshaft 1st gear collar	27.975—27.995 (1.1014—1.1022)	
	On countershaft (L. side)	36.004—36.017 (1.4175—1.4180)	
	On countershaft 3rd gear distance collar	31.975—31.991 (1.2589—1.2595)	
	On countershaft 4th gear	27.980—27.993 (1.1016—1.1021)	
	On countershaft reverse gear collar	29.980—29.993 (1.1803—1.1808)	
	On countershaft 1st gear collar	29.980—29.993 (1.1803—1.1808)	
	On reverse idler gear shaft	13.990—14.000 (0.5508—0.5512)	
	On mainshaft 1st gear	33.000—33.016 (1.2992—1.2998)	Wear or damage
	Inside diameter of needle bearing contact area		
	On mainshaft 2nd gear	41.000—41.016 (1.6142—1.6148)	Wear or damage
	On mainshaft 4th gear	38.000—38.016 (1.4961—1.4967)	
	On countershaft 1st gear	35.000—35.016 (1.3780—1.3786)	
	On countershaft 3rd gear	38.000—38.016 (1.4961—1.4967)	
	On countershaft 4th gear	33.000—33.016 (1.2992—1.2998)	
	On countershaft reverse gear	36.000—36.016 (1.4173—1.4179)	
	On reverse idler gear	18.007—18.020 (0.7089—0.7094)	
	On stator shaft (R. side)	26.000—26.013 (1.0236—1.0241)	
	On stator shaft (stator side)	24.000—24.021 (0.9449—0.9457)	
	On reverse idler shaft holder	14.416—14.434 (0.5676—0.5683)	Wear or damage
	End play		
	Mainshaft 1st gear	0.08—0.24 (0.003—0.009)	—
	Mainshaft 2nd gear	0.07—0.15 (0.003—0.006)	—
	Mainshaft 4th gear	0.10—0.22 (0.004—0.009)	—
	Countershaft 1st gear	0.10—0.45 (0.004—0.018)	—
	Countershaft 3rd gear	0.07—0.15 (0.003—0.006)	—
	Countershaft 4th gear	0.07—0.15 (0.003—0.006)	—
	Reverse idler gear	0.05—0.18 (0.002—0.007)	—
	Countershaft reverse gear	0.10—0.45 (0.004—0.018)	—
	Selector hub O.D.	51.87—51.90 (2.042—2.043)	Wear or damage
	Mainshaft 4th gear collar length	40.000—40.050 (1.5748—1.5768)	—
	Mainshaft 1st gear collar length	25.000—25.150 (0.9843—0.9902)	—
	Mainshaft 1st gear collar flange thickness	2.50—2.60 (0.098—0.102)	Wear or damage
	Countershaft distance collar length	38.97—39.00 (1.534—1.535)	—
		39.02—39.05 (1.536—1.537)	—
		39.07—39.10 (1.538—1.539)	—
		39.12—39.15 (1.540—1.541)	—
		39.17—39.20 (1.542—1.543)	—
		39.22—39.25 (1.544—1.545)	—
		39.27—39.30 (1.546—1.547)	—
		38.87—38.90 (1.530—1.531)	—
		38.92—38.95 (1.532—1.533)	—
	Countershaft reverse gear collar length	14.50—14.55 (0.571—0.573)	—
	Countershaft reverse gear collar flange thickness	2.45—2.55 (0.096—0.100)	Wear or damage
	Countershaft 1st gear collar length	14.50—14.55 (0.571—0.573)	—
	Countershaft 1st gear collar flange thickness	2.45—2.55 (0.096—0.100)	Wear or damage

2WD Automatic Transmission M48A—Section 14

Unit of length: mm (in)

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Transmission (cont'd)	Mainshaft 2nd gear thrust washer thickness	3.47—3.50 (0.137—0.138) 3.52—3.55 (0.139—0.140) 3.57—3.60 (0.141—0.142) 3.62—3.65 (0.143—0.144) 3.67—3.70 (0.144—0.146) 3.72—3.75 (0.146—0.148) 3.77—3.80 (0.148—0.150) 3.82—3.85 (0.150—0.152) 3.87—3.90 (0.152—0.154)	Wear or damage ↕ Wear or damage
	Thrust washer thickness Mainshaft 4th gear Mainshaft ball bearing L. side Mainshaft 1st gear L. side Mainshaft 1st gear R. side	 4.45—4.55 (0.175—0.179) 2.95—3.05 (0.116—0.120) 1.45—1.50 (0.057—0.059) 2.43—2.50 (0.096—0.098)	 Wear or damage ↕ Wear or damage
	Countershaft 3rd gear splined washer thickness	2.87—2.90 (0.113—0.114) 2.92—2.95 (0.115—0.116) 2.97—3.00 (0.117—0.118) 3.02—3.05 (0.119—0.120) 3.07—3.10 (0.121—0.122) 3.12—3.15 (0.123—0.124) 3.17—3.20 (0.125—0.126) 3.22—3.25 (0.127—0.128) 3.27—3.30 (0.129—0.130) 3.32—3.35 (0.131—0.132) 3.37—3.40 (0.133—0.134)	Wear or damage ↕ Wear or damage
	Mainshaft 4th gear thrust washer thickness One-way clutch contact area I. D. Countershaft 1st gear Parking gear Mainshaft feed pipe A, O. D. Mainshaft feed pipe B, O. D. Countershaft feed pipe O. D. Mainshaft sealing ring thickness Mainshaft bushing I. D. Mainshaft bushing I. D. Countershaft bushing I. D. Mainshaft sealing ring groove width	2.93—3.00 (0.115—0.118) 74.414—74.440 (2.9297—2.9307) 57.755—57.768 (2.2738—2.2743) 8.97—8.98 (0.353—0.354) 5.970—5.980 (0.2350—0.2354) 7.970—7.980 (0.3138—0.3142) 1.980—1.995 (0.0780—0.0785) 6.018—6.030 (0.2369—0.2374) 9.000—9.015 (0.3543—0.3549) 8.000—8.015 (0.3150—0.3156) 2.025—2.060 (0.0797—0.0811)	Wear or damage ↕ Wear or damage 8.95 (0.352) 5.95 (0.234) 7.95 (0.313) 1.80 (0.071) 6.045 (0.2380) 9.030 (0.356) 8.030 (0.3161) 2.080 (0.082)
Regulator valve body	Sealing ring contact I. D.	32.000—32.025 (1.2598—1.2608)	32.05 (1.262)
Shifting device and parking brake control	Reverse shift fork finger thickness Parking brake ratchet pawl Parking brake gear Throttle cam stopper height	5.90—6.00 (0.232—0.236) — — 18.50—18.60 (0.728—0.732)	5.40 (0.213) Wear or other defect — —
Servo body	Shift fork shaft bore I. D. A B C Shift fork shaft valve bore I. D.	14.000—14.005 (0.5512—0.5514) 14.006—14.010 (0.5514—0.5516) 14.011—14.015 (0.5516—0.5518) 37.000—37.039 (1.4567—1.4582)	— — — 37.045 (1.4585)
Oil pump	Oil pump gear side clearance Oil pump gear-to-body clearance Drive Driven Oil pump driven gear I. D. Oil pump shaft O. D.	0.03—0.05 (0.001—0.002) 0.240—0.266 (0.0094—0.0105) 0.063—0.088 (0.0025—0.0035) 14.016—14.034 (0.5518—0.5525) 13.980—13.990 (0.5504—0.5508)	0.07 (0.003) — — Wear or damage Wear or damage

(cont'd)

Standards and Service Limits

2WD Automatic Transmission M48A (cont'd)—Section 14

	MEASUREMENT		STANDARD (NEW) Wire Dia.	O. D.	Free Length	No. of Coils
Spring	2nd orifice control valve spring	D12B1/D15B3	0.90 (0.035)	6.60 (0.260)	41.20 (1.622)	22.0
		D16A9	0.90 (0.035)	6.60 (0.260)	45.10 (1.776)	22.0
	3-4 shift valve spring		0.70 (0.028)	9.60 (0.378)	32.90 (1.295)	6.4
	3-4 shift valve ball spring		0.45 (0.018)	4.50 (0.177)	12.00 (0.472)	6.7
	Cooler relief valve spring		1.10 (0.043)	8.40 (0.331)	36.40 (1.433)	12.0
	Relief valve spring		1.00 (0.039)	8.40 (0.331)	52.00 (2.047)	23.0
	2-3 shift valve spring		0.80 (0.031)	7.60 (0.299)	42.00 (1.654)	22.7
	2-3 shift valve ball spring		0.45 (0.018)	4.50 (0.177)	13.30 (0.524)	8.0
	1-2 shift valve spring		0.45 (0.018)	4.40 (0.173)	48.00 (1.890)	26.6
	1-2 shift valve ball spring		0.45 (0.018)	4.50 (0.177)	10.70 (0.421)	12.7
	Regulator valve spring A	D12B1/D15B3	1.80 (0.071)	14.70 (0.579)	85.40 (3.362)	16.5
		D16A9	1.80 (0.071)	14.70 (0.579)	87.80 (3.457)	16.5
	Regulator valve spring B		1.80 (0.071)	9.60 (0.378)	44.00 (1.732)	7.5
	Stator reaction spring		5.50 (0.217)	26.40 (1.039)*	30.30 (1.193)	2.1
	Lock-up control valve spring	D12B1/D15B3	0.70 (0.028)	6.60 (0.260)	32.50 (1.280)	14.0
		D16A9	0.60 (0.024)	6.60 (0.260)	32.80 (1.291)	15.8
	Torque converter check valve spring		1.10 (0.043)	8.40 (0.331)	36.40 (1.433)	12.0
	Modulator valve spring	D12B1/D15B3	1.20 (0.047)	7.00 (0.276) *	26.30 (1.035)	8.0
			1.20 (0.047)	7.00 (0.276) *	27.20 (1.071)	8.0
		D16A9	1.20 (0.047)	7.00 (0.276) *	26.30 (1.035)	8.0
			1.20 (0.047)	7.00 (0.276) *	26.40 (1.039)	8.0
	Throttle valve A spring	D12B1/D15B3	1.10 (0.043)	8.50 (0.335)	22.30 (0.878)	8.1
			1.10 (0.043)	8.50 (0.335)	22.30 (0.878)	7.6
			1.00 (0.039)	8.50 (0.335)	22.20 (0.874)	6.0
			1.00 (0.039)	8.50 (0.335)	22.10 (0.870)	5.5
		D16A9	1.00 (0.039)	8.50 (0.335)	22.20 (0.874)	6.0
			1.00 (0.039)	8.50 (0.335)	22.10 (0.870)	5.5
			1.00 (0.039)	8.50 (0.335)	22.50 (0.886)	7.3
			1.00 (0.039)	8.50 (0.335)	22.30 (0.878)	6.6
	Throttle valve A adjusting spring		0.80 (0.031)	6.20 (0.244)	27.00 (1.063)	8.5
	Throttle valve B spring	D12B1/D15B3	1.40 (0.055)	8.50 (0.335)	41.50 (1.634)	10.5
			1.40 (0.055)	8.50 (0.335)	41.50 (1.634)	11.2
			1.40 (0.055)	8.50 (0.335)	41.60 (1.638)	12.4
		D16A9	1.60 (0.063)	8.50 (0.335)	41.30 (1.626)	13.9
			1.60 (0.063)	8.50 (0.335)	41.40 (1.630)	11.7
			1.60 (0.063)	8.50 (0.335)	41.30 (1.626)	13.0

*: Inside Diameter

2WD Automatic Transmission M48A—Section 14

Unit of length: mm (in)

	MEASUREMENT	STANDARD (NEW)			
		Wire Dia.	O. D.	Free Length	No. of Coils
Spring	Throttle valve B adjusting spring	0.80 (0.031)	6.20 (0.244)	30.00 (1.181)	8.0
	3rd accumulator spring	2.80 (0.110)	15.50 (0.610)	82.50 (3.248)	17.4
	2nd accumulator spring D12B1/D15B3 D16A9	3.80 (0.150) 3.80 (0.150)	20.20 (0.795) 20.20 (0.795)	75.30 (2.965) 75.10 (2.957)	10.8 9.8
	4th accumulator spring	3.20 (0.126)	18.60 (0.732)	82.70 (3.256)	12.0
	Reverse timing valve spring	0.70 (0.028)	5.60 (0.220)	43.80 (1.724)	27.1
	Servo control valve spring	1.00 (0.039)	7.60 (0.299)	39.40 (1.551)	18.2
	Lock-up shift valve spring D12B1/D15B3 D16A9	0.70 (0.028) 1.10 (0.043)	8.10 (0.319) 8.10 (0.319)	39.00 (1.535) 51.80 (2.039)	15.4 22.3
	Lock-up timing valve spring	1.00 (0.039)	6.60 (0.260)	52.30 (2.059)	30.1
	Governor spring A	1.00 (0.039)	18.80 (0.740)	20.40 (0.803)	4.0
	Governor spring B	0.80 (0.031) 0.80 (0.031)	11.80 (0.465) 11.80 (0.465)	30.90 (1.217) 26.70 (1.051)	6.0 6.0
	Kick-down valve spring	1.30 (0.051)	10.10 (0.398)	33.20 (1.307)	10.3
	Orifice control valve spring D12B1/D15B3 D16A9	0.80 (0.031) 0.90 (0.035)	6.10 (0.240) 6.10 (0.240)	36.20 (1.425) 36.00 (1.417)	14.6 19.8
	Shift timing valve spring	0.90 (0.035)	8.60 (0.339)	42.90 (1.689)	21.4
	4th exhaust valve spring	0.90 (0.035)	6.10 (0.240)	43.70 (1.720)	20.3
	Accumulator control valve spring	1.20 (0.047)	8.60 (0.339)	45.60 (1.795)	14.7
	Lock-up cut valve spring	0.70 (0.028)	7.60 (0.299)	29.00 (1.142)	18.0
	Reverse control valve spring	0.70 (0.028)	7.60 (0.299)	37.20 (1.465)	15.3
	CPC (Clutch Pressure Control) valve spring	0.90 (0.035)	8.60 (0.339)	18.20 (0.717)	5.54
	1st accumulator spring A	2.90 (0.114)	21.50 (0.846)	58.80 (2.315)	7.3
	1st accumulator spring B	2.30 (0.091)	7.50 (0.295) *	39.00 (1.535)	5.6

*: Inside Diameter

Standards and Service Limits

2WD Automatic Transmission M24A—Section 14

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Transmission fluid	Capacity ℓ (US qt, Imp qt)	5.9 (6.2, 5.2) for overhaul 2.7 (2.9, 2.4) for fluid change	
Hydraulic pressure kPa (kg/cm², psi) D16Z6, D16Y1, D16Z7 engines	Line pressure at 2,000 min⁻¹ (rpm) [N] or [P] position	850—900 (8.5—9.0, 121—128)	800 (8.0, 114)
	2nd clutch pressure at 2,000 min⁻¹ (rpm) [D4] position	400 (4.0, 57) throttle fully closed ⏐ 850—900 (8.5—9.0, 121—128) throttle more than 1/8 opened	350 (3.5, 50) throttle fully closed ⏐ 800 (8.0, 114) throttle more than 1/8 opened
	3rd clutch pressure at 2,000 min⁻¹ (rpm) [D4] position		
	4th clutch pressure at 2,000 min⁻¹ (rpm) [D4] position		
	2nd clutch pressure at 2,000 min⁻¹ (rpm) [2] position	850—900 (8.5—9.0, 121—128)	800 (8.0, 114)
	1st clutch pressure at 2,000 min⁻¹ (rpm) [D4] or [1] position	850—900 (8.5—9.0, 121—128)	800 (8.0, 114)
	Governor pressure at 60 km/h (38 mph)	182—192 (1.82—1.92, 26—27)	177 (1.77, 25)
	Throttle B pressure Throttle fully closed Throttle fully open	 0—15 (0—0.15, 0—2.1) 850—900 (8.5—9.0, 121—128)	— 800 (8.0, 114)
	Throttle A pressure Throttle fully closed Throttle fully open	 0—5 (0—0.05, 0—0.7) 485—500 (4.85—5.00, 69—71)	— 480 (4.8, 68)
Hydraulic pressure kPa (kg/cm², psi) D15B2, D15B7, D15B5 engines	Line pressure at 2,000 min⁻¹ (rpm) [N] or [P] position	800—850 (8.0—8.5, 114—121)	750 (7.5, 107)
	2nd clutch pressure at 2,000 min⁻¹ (rpm) [D4] position	400 (4.0, 57) throttle fully closed ⏐ 800—850 (8.0—8.5, 114—121) throttle more than 1/8 opened	350 (3.5, 50) throttle fully closed ⏐ 750 (7.5, 107) throttle more than 1/8 opened
	3rd clutch pressure at 2,000 min⁻¹ (rpm) [D4] position		
	4th clutch pressure at 2,000 min⁻¹ (rpm) [D4] position		
	2nd clutch pressure at 2,000 min⁻¹ (rpm) [2] position	800—850 (8.0—8.5, 114—121)	750 (7.5, 107)
	1st clutch pressure at 2,000 min⁻¹ (rpm) [D4] or [1] position	800—850 (8.0—8.5, 114—121)	750 (7.5, 107)
	Governor pressure at 60 km/h (38 mph)	182—192 (1.82—1.92, 26—27)	177 (1.77, 25)
	Throttle B pressure Throttle fully closed Throttle fully open	 0—15 (0—0.15, 0—2.1) 800—850 (8.0—8.5, 114—121)	— 750 (7.5, 107)
	Throttle A pressure Throttle fully closed Throttle fully open	 0—5 (0—0.05, 0—0.7) 485—500 (4.85—5.00, 69—71)	— 480 (4.8, 68)
Stall speed min⁻¹ (rpm) (check with car on level ground)		2,600	2,400—2,800

2WD Automatic Transmission M24A—Section 14

Unit of length: mm (in)

	MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Clutch	Clutch initial clearance	1st, 2nd	0.65—0.85 (0.026—0.033)	—
		3rd, 4th	0.40—0.60 (0.016—0.024)	—
		1st-hold	0.5—0.8 (0.02—0.03)	—
	Clutch return spring free length	1st	31.0 (1.22)	29.0 (1.14)
		2nd, 3rd, 4th	30.5 (1.20)	28.5 (1.12)
		1st-hold	34.6 (1.36)	32.6 (1.28)
	Clutch disc thickness		1.88—2.00 (0.074—0.079)	Until grooves worn out
	Clutch plate thickness	1st	1.55—1.65 (0.061—0.065)	Discoloration
		Except 1st	1.95—2.05 (0.077—0.081)	Discoloration
	Clutch end plate thickness (except 1st-hold)	MARK1	2.30—2.40 (0.091—0.094)	Discoloration
		MARK2	2.40—2.50 (0.094—0.098)	
		MARK3	2.50—2.60 (0.098—0.102)	
		MARK4	2.60—2.70 (0.102—0.106)	
		MARK5	2.70—2.80 (0.106—0.110)	
		MARK6	2.80—2.90 (0.110—0.114)	
		MARK7	2.90—3.00 (0.114—0.118)	
		MARK8	3.00—3.10 (0.118—0.122)	
		MARK9	3.10—3.20 (0.122—0.126)	
		MARK10	3.20—3.30 (0.126—0.130)	
		MARK11	2.00—2.10 (0.079—0.083)	
		MARK12	2.10—2.20 (0.083—0.087)	
		MARK13	2.20—2.30 (0.087—0.091)	Discoloration
	Clutch end plate thickness (1st-hold)	MARK1	2.05—2.10 (0.081—0.083)	Discoloration
		MARK2	2.15—2.20 (0.085—0.087)	
		MARK3	2.25—2.30 (0.089—0.091)	
		MARK4	2.35—2.40 (0.093—0.094)	
		NO MARK	2.45—2.50 (0.096—0.098)	
		MARK6	2.55—2.60 (0.100—0.102)	
		MARK7	2.65—2.70 (0.104—0.106)	Discoloration
Transmission	Diameter of needle bearing contact area			
	On mainshaft and stator shaft		22.980—22.993 (0.9047—0.9052)	Wear or damage
	On mainshaft 2nd gear collar		35.975—35.991 (1.4163—1.4170)	
	On mainshaft 4th gear collar		31.975—31.991 (1.2589—1.2595)	
	On mainshaft 1st gear collar		30.975—30.991 (1.2195—1.2201)	
	On countershaft (L. side)		36.004—36.017 (1.4175—1.4180)	
	On countershaft 3rd gear distance collar		31.980—31.996 (1.2591—1.2597)	
	On countershaft 4th gear		27.980—27.993 (1.1016—1.1021)	
	On countershaft reverse gear collar		31.975—31.991 (1.2589—1.2595)	
	On countershaft 1st gear collar		31.975—31.991 (1.2589—1.2595)	
	On sub-shaft (L. side)		25.991—26.000 (1.0233—1.0236)	
	On sub-shaft 4th gear collar		27.980—27.993 (1.1016—1.1021)	
	On reverse idler gear shaft		13.990—14.000 (0.5508—0.5512)	
	On mainshaft 1st gear		35.000—35.016 (1.3780—1.3786)	
	On mainshaft 2nd gear		41.000—41.016 (1.6142—1.6148)	
	On mainshaft 4th gear		38.000—38.016 (1.4961—1.4967)	
	On countershaft 1st gear		38.000—38.016 (1.4961—1.4967)	Wear or damage

(cont'd)

Standards and Service Limits

2WD Automatic Transmission M24A (cont'd)—Section 14

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Transmission (cont'd)	Inside diameter of needle bearing contact area		
	On countershaft 3rd gear	38.000—38.016 (1.4961—1.4967)	Wear or damage
	On countershaft 4th gear	33.000—33.016 (1.2992—1.2998)	↑
	On countershaft reverse gear	38.000—38.016 (1.4961—1.4967)	
	On sub-shaft 4th gear	32.000—32.016 (1.2598—1.2605)	
	On reverse idler gear	18.007—18.020 (0.7089—0.7094)	
	On stator shaft (R. side)	29.000—29.013 (1.1417—1.1422)	
	On stator shaft (stator side)	27.000—27.021 (1.0630—1.0638)	
	On reverse idler gear shaft holder	14.416—14.434 (0.5676—0.5683)	↓ Wear or damage
	End play		
	Mainshaft 1st gear	0.08—0.24 (0.003—0.009)	—
	Mainshaft 2nd gear	0.05—0.130 (0.002—0.0051)	—
	Mainshaft 4th gear	0.05—0.135 (0.002—0.0053)	—
	Countershaft 1st gear	0.10—0.50 (0.004—0.020)	—
	Countershaft 3rd gear	0.05—0.130 (0.002—0.0051)	—
	Countershaft 4th gear	0.05—0.130 (0.002—0.0051)	—
	Sub-shaft 4th gear	0.05—0.17 (0.002—0.007)	—
	Reverse idler gear	0.05—0.18 (0.002—0.007)	—
	Countershaft reverse gear	0.10—0.25 (0.004—0.010)	—
	Selector hub O. D.	51.87—51.90 (2.042—2.043)	Wear or damage
	Mainshaft 4th gear collar length	45.00—45.03 (1.772—1.773)	—
	Mainshaft 1st gear collar length	27.00—27.15 (1.063—1.069)	—
	Mainshaft 1st gear collar flange thickness	2.50—2.60 (0.098—0.102)	Wear or damage
	Countershaft distance collar length (28 mm)	38.97—39.00 (1.534—1.535)	—
		39.02—39.05 (1.536—1.537)	—
		39.07—39.10 (1.538—1.539)	—
		39.12—39.15 (1.540—1.541)	—
		39.17—39.20 (1.542—1.543)	—
		39.22—39.25 (1.544—1.545)	—
		39.27—39.30 (1.546—1.547)	—
		38.87—38.90 (1.530—1.531)	—
		38.92—38.95 (1.532—1.533)	—
	Countershaft reverse gear collar length	14.50—14.60 (0.571—0.575)	—
	Countershaft reverse gear collar flange thickness	2.40—2.60 (0.094—0.102)	Wear or damage
	Countershaft 1st gear collar length	14.50—14.60 (0.571—0.575)	—
	Countershaft 1st gear collar flange thickness	2.40—2.60 (0.094—0.102)	Wear or damage
	Sub-shaft 4th gear collar length	24.00—24.10 (0.945—0.949)	Wear or damage
	Sub-shaft 4th gear collar flange thickness	3.000—3.150 (0.118—0.124)	Wear or damage
	Mainshaft 2nd gear thrust washer thickness	3.47—3.50 (0.137—0.138)	Wear or damage
		3.52—3.55 (0.139—0.140)	↑
		3.57—3.60 (0.141—0.142)	
		3.62—3.65 (0.143—0.144)	
		3.67—3.70 (0.145—0.146)	
		3.72—3.75 (0.146—0.148)	
		3.77—3.80 (0.148—0.150)	
		3.82—3.85 (0.150—0.152)	
		3.87—3.90 (0.152—0.154)	↓ Wear or damage

2WD Automatic Transmission M24A—Section 14

Unit of length: mm (in)

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Transmission (cont'd)	Thrust washer thickness		
	Mainshaft 4th gear	4.45—4.55 (0.175—0.179)	Wear or damage
	Mainshaft ball bearing L. side	3.45—3.55 (0.136—0.140)	↕
	Mainshaft 1st gear L. side	1.45—1.50 (0.057—0.059)	
	Mainshaft 1st gear R. side	3.43—3.50 (0.135—0.138)	Wear or damage
	Countershaft 3rd gear thrust washer thickness (35 x 52 mm)	2.97—3.00 (0.117—0.118) 3.02—3.05 (0.119—0.120) 3.07—3.10 (0.121—0.122) 3.12—3.15 (0.123—0.124) 3.17—3.20 (0.125—0.126) 3.22—3.25 (0.127—0.128) 3.27—3.30 (0.129—0.130) 3.32—3.35 (0.131—0.132) 3.37—3.40 (0.133—0.134) 3.42—3.45 (0.135—0.136) 3.47—3.50 (0.137—0.138) 3.52—3.55 (0.139—0.140) 3.57—3.60 (0.141—0.142)	Wear or damage ↕ Wear or damage
	Sub-shaft 4th gear thrust washer thickness	2.93—3.00 (0.115—0.118)	Wear or damage
	One-way clutch contact area I. D.		↕
	Countershaft 1st gear	83.339—83.365 (3.2811—3.2821)	
	Parking gear	66.685—66.698 (2.6254—2.6259)	Wear or damage
	Mainshaft feed pipe A, O. D.	8.970—8.980 (0.3531—0.3535)	8.95 (0.352)
	Mainshaft feed pipe B, O. D.	5.970—5.980 (0.2350—0.2354)	5.95 (0.234)
	Countershaft feed pipe O. D.	7.970—7.980 (0.3138—0.3142)	7.95 (0.313)
	Sub-shaft feed pipe O. D.	7.970—7.980 (0.3138—0.3142)	7.95 (0.313)
	Mainshaft sealing ring thickness (29 mm and 35 mm)	1.980—1.995 (0.0780—0.0785)	1.80 (0.071)
	Mainshaft bushing I. D.	6.018—6.030 (0.2369—0.2374)	6.045 (0.2380)
	Mainshaft bushing I. D.	9.000—9.015 (0.3543—0.3549)	9.030 (0.3555)
	Countershaft bushing I. D.	8.000—8.015 (0.3150—0.3156)	8.030 (0.3161)
	Sub-shaft bushing I. D.	8.000—8.015 (0.3150—0.3156)	8.030 (0.3161)
	Mainshaft sealing ring groove width	2.025—2.060 (0.0797—0.0811)	2.080 (0.0819)
Regulator valve body	Sealing ring contact I. D.	35.000—35.025 (1.3780—1.3789)	35.050 (1.3799)
Shifting device and parking brake control	Reverse shift fork finger thickness	5.90—6.00 (0.232—0.236)	5.40 (0.213)
	Parking brake ratchet pawl	—	Wear or other
	Parking brake gear	—	defect
	Throttle cam stopper height	27.00—27.10 (1.063—1.067)	—
Servo body	Shift fork shaft bore I. D.	14.000—14.010 (0.5512—0.5516)	—
	Shift fork shaft valve bore I. D.	37.000—37.039 (1.4567—1.4582)	37.045 (1.4585)
Oil pump	Oil pump gear side clearance		
	Drive	0.030—0.050 (0.0012—0.0020)	0.07 (0.003)
	Driven	0.040—0.060 (0.0016—0.0024)	0.07 (0.003)
	Oil pump gear-to-body clearance		
	Drive	0.210—0.265 (0.0083—0.0104)	—
	Driven	0.070—0.125 (0.0028—0.0049)	—
	Oil pump driven gear I. D.	14.016—14.034 (0.5518—0.5525)	Wear or damage
	Oil pump shaft O. D.	13.980—13.990 (0.5504—0.5508)	Wear or damage

(cont'd)

Standards and Service Limits

2WD Automatic Transmission M24A (cont'd) — Section 14

	MEASUREMENT	STANDARD (NEW)			
		Wire Dia.	O. D.	Free Length	No. of Coils
Springs	Regulator valve spring A D16Y1, D16Z6, D16Z7 engines	1.8 (0.07)	14.7 (0.58)	87.8 (3.46)	16.5
	Regulator valve spring A D15B2, D15B7, D15B5 engines	1.8 (0.07)	14.7 (0.58)	85.4 (3.36)	16.5
	Regulator valve spring B	1.8 (0.07)	9.6 (0.38)	44.0 (1.73)	7.5
	Stator reaction spring	5.5 (0.22)	26.4 (1.04) *	30.3 (1.19)	2.1
	Torque converter check valve spring	1.0 (0.04)	8.4 (0.33)	33.8 (1.33)	8.2
	Modulator valve spring	1.20 (0.047)	7.00 (0.276) *	27.20 (1.071)	8.0
		1.20 (0.047)	7.00 (0.276) *	26.30 (1.035)	8.0
	Relief valve spring	1.1 (0.04)	8.6 (0.34)	37.1 (1.46)	13.4
	Cooler check valve spring	1.0 (0.04)	8.4 (0.33)	33.8 (1.33)	8.2
	Governor spring A	1.0 (0.04)	18.8 (0.74)	32.9 (1.30)	4.1
	Governor spring B	0.9 (0.04)	11.8 (0.46)	27.8 (1.09)	6.0
		0.9 (0.04)	11.8 (0.46)	29.1 (1.15)	6.0
	2-3 orifice control valve spring	0.9 (0.04)	6.6 (0.26)	33.2 (1.31)	14.9
	4-3 kick down valve spring	1.0 (0.04)	6.6 (0.26)	29.9 (1.18)	14.7
	2/3-4 orifice control valve spring	1.0 (0.04)	8.6 (0.34)	51.9 (2.04)	19.8
	2nd ON orifice control valve spring	0.9 (0.04)	8.0 (0.31)	24.1 (0.95)	9.6
	Throttle valve A spring	1.0 (0.04)	8.5 (0.33)	22.2 (0.87)	6.0
	Throttle valve A spring	1.0 (0.04)	8.5 (0.33)	22.1 (0.87)	5.5
	Throttle valve A spring	1.1 (0.04)	8.5 (0.33)	22.3 (0.87)	8.1
	Throttle valve A spring	1.1 (0.04)	8.5 (0.33)	22.3 (0.88)	7.6
	Throttle valve B adjusting spring	0.8 (0.03)	6.2 (0.24)	30.0 (1.18)	8
	Throttle valve A adjusting spring	0.8 (0.03)	6.2 (0.24)	27.0 (1.06)	8.5
	Throttle valve B spring	1.4 (0.06)	8.5 (0.33)	41.5 (1.63)	10.5
	Throttle valve B spring	1.4 (0.06)	8.5 (0.33)	41.5 (1.63)	11.2
	Throttle valve B spring	1.4 (0.06)	8.5 (0.33)	41.6 (1.64)	12.4
	1-2 shift valve spring	0.45 (0.018)	5.1 (0.20)	52.8 (2.08)	29
	1-2 shift valve ball spring	0.45 (0.018)	4.5 (0.18)	10.7 (0.42)	12.7
	2-3 shift valve spring	0.9 (0.04)	7.1 (0.28)	65.3 (2.57)	32.1
	2-3 shift valve ball spring	0.45 (0.018)	4.5 (0.18)	13.3 (0.52)	8.0
	3-4 shift valve spring	0.9 (0.04)	9.6 (0.38)	32.5 (1.28)	10.3
	3-4 shift valve ball spring	0.5 (0.02)	4.5 (0.18)	11.3 (0.44)	7.4
	1st-hold accumulator spring	4.0 (0.16)	21.5 (0.85)	71.7 (2.82)	8.3
	1st accumulator spring A	2.6 (0.10)	24.3 (0.96)	101.9 (4.01)	11.6
	1st accumulator spring B	2.3 (0.09)	9.9 (0.39) *	49.0 (1.93)	4.6
	2nd accumulator spring	3.5 (0.14)	22.0 (0.87)	77.0 (3.03)	9.5
	3rd accumulator spring	2.6 (0.10)	17.5 (0.69)	91.8 (3.61)	15.8
	4th accumulator spring	2.6 (0.10)	16.0 (0.63)	90.1 (3.55)	15.6
	Lock-up shift valve spring	0.9 (0.04)	7.6 (0.30)	73.7 (2.90)	32
	Lock-up timing valve spring	0.8 (0.03)	6.6 (0.26)	61.5 (2.42)	27.6
	Look-up control valve spring	0.9 (0.04)	6.6 (0.26)	38.4 (1.51)	23.3
	Governor cut valve spring	0.8 (0.03)	7.6 (0.30)	44.5 (1.75)	17
	CPC valve spring	0.9 (0.04)	8.4 (0.33)	24.9 (0.98)	9.8
	Reverse control valve spring	0.7 (0.03)	7.1 (0.28)	40.0 (1.57)	20.8
	3-2 timing valve spring	1.2 (0.05)	8.6 (0.34)	45.6 (1.80)	14.7
	Servo control valve spring	0.9 (0.04)	6.4 (0.25)	34.1 (1.34)	17.5
	2-1 timing valve spring	0.7 (0.03)	5.6 (0.22)	33.0 (1.30)	21.7
	4th exhaust valve spring	0.9 (0.04)	6.6 (0.26)	43.3 (1.70)	22

*: Inside Diameter

4WD Automatic Transmission M25A—Section 14

Unit of length: mm (in)

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Transmission fluid	Capacity ℓ (US qt, Imp qt)	6.4 (6.8, 5.6) for overhaul 3.2 (3.4, 2.8) for fluid change	
Hydraulic pressure kPa (kg/cm², psi)	Line pressure at 2,000 min⁻¹ (rpm) [N] or [P] position	850—900 (8.5—9.0, 121—128)	800 (8.0, 114)
	2nd clutch pressure at 2,000 min⁻¹ (rpm) [D4] position	500 (5.0, 71) throttle fully closed	450 (4.5, 64) throttle fully closed
	3rd clutch pressure at 2,000 min⁻¹ (rpm) [D4] position		
	4th clutch pressure at 2,000 min⁻¹ (rpm) [D4] position	850—900 (8.5—9.0, 121—128) throttle more than 3/8 opened	800 (8.0, 114) throttle more than 3/8 opened
	2nd clutch pressure at 2,000 min⁻¹ (rpm) [2] position	850—900 (8.5—9.0, 121—128)	800 (8.0, 114)
	1st clutch pressure at 2,000 min⁻¹ (rpm) [D4] or [1] position	850—900 (8.5—9.0, 121—128)	800 (8.0, 114)
	1st-hold clutch pressure at 2,000 min⁻¹ (rpm) [1] position	850—900 (8.5—9.0, 121—128)	800 (8.0, 114)
	Throttle B pressure Throttle fully closed Throttle fully open	 0 850—900 (8.5—9.0, 121—128)	 — 800 (8.0, 114)
Stall speed mim⁻¹ (rpm) (check with car on level ground)		2,600	2,300—2,900
Clutch	Clutch initial clearance 1st, 2nd	0.65—0.85 (0.026—0.033)	—
	3rd, 4th	0.40—0.60 (0.016—0.024)	—
	1st-hold	0.5—0.8 (0.02—0.03)	—
	Clutch return spring free length 1st	31.0 (1.22)	29.0 (1.14)
	2nd, 3rd, 4th	30.5 (1.20)	28.5 (1.12)
	1st-hold	34.6 (1.36)	32.6 (1.28)
	Clutch disc thickness	1.88—2.00 (0.074—0.079)	Until grooves worn out
	Clutch plate thickness 1st	1.55—1.65 (0.061—0.065)	Discoloration
	Except 1st	1.95—2.05 (0.077—0.081)	Discoloration
	Clutch end plate thickness (except 1st-hold) MARK1	2.30—2.40 (0.091—0.094)	Discoloration
	MARK2	2.40—2.50 (0.094—0.098)	
	MARK3	2.50—2.60 (0.098—0.102)	
	MARK4	2.60—2.70 (0.102—0.106)	
	MARK5	2.70—2.80 (0.106—0.110)	
	MARK6	2.80—2.90 (0.110—0.114)	
	MARK7	2.90—3.00 (0.114—0.118)	
	MARK8	3.00—3.10 (0.118—0.122)	
	MARK9	3.10—3.20 (0.122—0.126)	
	MARK10	3.20—3.30 (0.126—0.130)	
	MARK11	2.00—2.10 (0.079—0.083)	
	MARK12	2.10—2.20 (0.083—0.087)	
	MARK13	2.20—2.30 (0.087—0.091)	Discoloration
	Clutch end plate thickness (1st-hold) MARK1	2.05—2.10 (0.081—0.083)	Discoloration
	MARK2	2.15—2.20 (0.085—0.087)	
	MARK3	2.25—2.30 (0.089—0.091)	
	MARK4	2.35—2.40 (0.093—0.094)	
	NO MARK	2.45—2.50 (0.096—0.098)	
	MARK6	2.55—2.60 (0.100—0.102)	
	MARK7	2.65—2.70 (0.104—0.106)	Discoloration

(cont'd)

Standards and Service Limits

4WD Automatic Transmission M25A (cont'd) — Section 14

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Transmission	Diameter of needle bearing contact area		
	On mainshaft and stator shaft	19.980 – 19.993 (0.7866 – 0.7871)	Wear or damage
	On mainshaft 2nd gear collar	35.975 – 35.991 (1.4163 – 1.4170)	↕
	On mainshaft 4th gear collar	31.975 – 31.991 (1.2589 – 1.2595)	↕
	On mainshaft 1st gear collar	30.975 – 30.991 (1.2195 – 1.2201)	↕
	On countershaft (L. side)	36.004 – 36.017 (1.4175 – 1.4180)	↕
	On countershaft 3rd gear distance collar	31.975 – 31.991 (1.2589 – 1.2595)	↕
	On countershaft 4th gear	27.980 – 27.993 (1.1016 – 1.1021)	↕
	On countershaft reverse gear collar	29.980 – 29.993 (1.1803 – 1.1808)	↕
	On countershaft 1st gear collar	31.975 – 31.991 (1.2589 – 1.2595)	↕
	On sub-shaft (L. side)	27.991 – 28.000 (1.1020 – 1.1024)	↕
	On sub-shaft 4th gear collar	29.980 – 29.993 (1.1803 – 1.1808)	↕
	On reverse idler gear shaft	13.990 – 14.000 (0.5508 – 0.5512)	Wear or damage
	Inside diameter of needle bearing contact area		
	On mainshaft 1st gear	36.000 – 36.016 (1.4173 – 1.4179)	Wear or damage
	On mainshaft 2nd gear	41.000 – 41.016 (1.6142 – 1.6148)	↕
	On mainshaft 4th gear	38.000 – 38.016 (1.4961 – 1.4967)	↕
	On countershaft 1st gear	38.000 – 38.016 (1.4961 – 1.4967)	↕
	On countershaft 3rd gear	38.000 – 38.016 (1.4961 – 1.4967)	↕
	On countershaft 4th gear	33.000 – 33.016 (1.2992 – 1.2998)	↕
	On countershaft reverse gear	36.000 – 36.016 (1.4173 – 1.4179)	↕
	On sub-shaft 4th gear	35.000 – 35.016 (1.3780 – 1.3786)	↕
	On reverse idler gear	18.007 – 18.020 (0.7089 – 0.7094)	↕
	On stator shaft (R. side)	26.000 – 26.013 (1.0236 – 1.0241)	↕
	On stator shaft (stator side)	24.000 – 24.021 (0.9449 – 0.9457)	↕
	On reverse idler gear shaft holder	14.416 – 14.434 (0.5676 – 0.5683)	Wear or damage
	End play		
	Mainshaft 1st gear	0.08 – 0.24 (0.003 – 0.009)	—
	Mainshaft 2nd gear	0.07 – 0.15 (0.003 – 0.006)	—
	Mainshaft 4th gear	0 – 0.08 (0.0 – 0.003)	—
	Countershaft 1st gear	0.10 – 0.45 (0.004 – 0.018)	—
	Countershaft 3rd gear	0.07 – 0.15 (0.003 – 0.006)	—
	Countershaft 4th gear	0.07 – 0.15 (0.003 – 0.006)	—
	Reverse idler gear	0.05 – 0.18 (0.002 – 0.007)	—
	Countershaft reverse gear	0.10 – 0.45 (0.004 – 0.018)	—
	Selector hub O. D.	51.87 – 51.90 (2.042 – 2.043)	Wear or damage
	Mainshaft 4th gear collar length	46.500 – 46.530 (1.8307 – 1.8319)	—
	Mainshaft 1st gear collar length	24.500 – 24.550 (0.9646 – 0.9665)	—
	Mainshaft 1st gear collar flange thickness	2.50 – 2.60 (0.098 – 0.102)	Wear or damage
	Countershaft distance collar length	38.97 – 39.00 (1.534 – 1.535)	—
		39.02 – 39.05 (1.536 – 1.537)	—
		39.07 – 39.10 (1.538 – 1.539)	—
		39.12 – 39.15 (1.540 – 1.541)	—
		39.17 – 39.20 (1.542 – 1.543)	—
		39.22 – 39.25 (1.544 – 1.545)	—
		39.27 – 39.30 (1.546 – 1.547)	—
		38.87 – 38.90 (1.530 – 1.531)	—
		38.92 – 38.95 (1.532 – 1.533)	—
	Countershaft reverse gear collar length	14.500 – 14.550 (0.5709 – 0.5728)	—
	Countershaft reverse gear collar flange thickness	2.45 – 2.55 (0.096 – 0.100)	Wear or damage
	Countershaft 1st gear collar length	14.500 – 14.550 (0.5709 – 0.5728)	—
	Countershaft 1st gear collar flange thickness	2.45 – 2.55 (0.096 – 0.100)	Wear or damage
	Sub-shaft 4th gear collar length	24.00 – 24.10 (0.945 – 0.949)	Wear or damage
	Sub-shaft 4th gear collar length of needle bearing contact area	21.000 – 21.100 (0.8268 – 0.8307)	Wear or damage

4WD Automatic Transmission M25A—Section 14

Unit of length: mm (in)

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Transmission (cont'd)	Mainshaft 2nd gear thrust washer thickness	3.47—3.50 (0.137—0.138) 3.52—3.55 (0.139—0.140) 3.57—3.60 (0.141—0.142) 3.62—3.65 (0.143—0.144) 3.67—3.70 (0.144—0.146) 3.72—3.75 (0.146—0.148) 3.77—3.80 (0.148—0.150) 3.82—3.85 (0.150—0.152) 3.87—3.90 (0.152—0.154)	Wear or damage ↕ Wear or damage
	Thrust washer thickness Mainshaft 4th gear Mainshaft ball bearing L. side Mainshaft 1st gear L. side Mainshaft 1st gear R. side	 4.45—4.55 (0.175—0.179) 2.950—3.050 (0.1161—0.1201) 1.45—1.50 (0.057—0.059) 2.43—2.50 (0.096—0.098)	 Wear or damage ↕ Wear or damage
	Countershaft 3rd gear thrust washer thickness	2.87—2.90 (0.113—0.114) 2.92—2.95 (0.115—0.116) 2.97—3.00 (0.117—0.118) 3.02—3.05 (0.119—0.120) 3.07—3.10 (0.121—0.122) 3.12—3.15 (0.123—0.124) 3.17—3.20 (0.125—0.126) 3.22—3.25 (0.127—0.128) 3.27—3.30 (0.129—0.130) 3.32—3.35 (0.131—0.132) 3.37—3.40 (0.133—0.134)	Wear or damage ↕ Wear or damage
	Mainshaft 4th gear thrust washer thickness One-way clutch contact area I. D. Countershaft 1st gear Parking gear Mainshaft feed pipe A, O. D. Mainshaft feed pipe B, O. D. Countershaft feed pipe O. D. Sub-shaft feed pipe O. D. Mainshaft sealing ring thickness Mainshaft bushing I. D. Mainshaft bushing I. D. Countershaft bushing I. D. Sub-shaft bushing I. D. Mainshaft sealing ring groove width	2.93—3.00 (0.115—0.118) 83.339—83.365 (3.2811—3.2821) 66.685—66.698 (2.6254—2.6259) 8.97—8.98 (0.353—0.354) 5.970—5.980 (0.2350—0.2354) 7.970—7.980 (0.3138—0.3142) 5.970—5.980 (0.2350—0.2354) 1.980—1.995 (0.0780—0.0785) 6.018—6.030 (0.2369—0.2374) 9.000—9.015 (0.3543—0.3549) 8.000—8.015 (0.3150—0.3156) 6.018—6.030 (0.2369—0.2374) 2.025—2.060 (0.0797—0.0811)	Wear or damage ↕ Wear or damage 8.95 (0.352) 5.95 (0.234) 7.95 (0.313) 5.95 (0.2343) 1.80 (0.071) 6.045 (0.2380) 9.030 (0.356) 8.030 (0.3161) 6.045 (0.2380) 2.080 (0.082)
Regulator valve body	Sealing ring contact I. D.	35.000—35.025 (1.3780—1.3789)	35.050 (1.3799)
Shifting device and parking brake control	Reverse shift fork finger thickness Parking brake ratchet pawl Parking brake gear Throttle cam stopper height	5.90—6.00 (0.232—0.236) — — 27.00—27.10 (1.063—1.067)	5.40 (0.213) Wear or other defect — —
Servo body	Shift fork shaft bore I. D. A B C Shift fork shaft valve bore I. D.	14.000—14.005 (0.5512—0.5514) 14.006—14.010 (0.5514—0.5516) 14.011—14.015 (0.5516—0.5518) 37.000—37.039 (1.4567—1.4582)	— — — 37.045 (1.4585)
Oil pump	Oil pump gear side clearance Oil pump gear-to-body clearance Drive Driven Oil pump driven gear I. D. Oil pump shaft O. D.	0.03—0.05 (0.001—0.002) 0.240—0.266 (0.0094—0.0105) 0.063—0.088 (0.0025—0.0035) 14.016—14.034 (0.5518—0.5525) 13.980—13.990 (0.5504—0.5508)	0.07 (0.003) — — Wear or damage Wear or damage

(cont'd)

Standards and Service Limits

4WD Automatic Transmission M25A (cont'd)—Section 14

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Transfer shaft	Diameter of needle bearing contact area	54.000—54.015 (2.1260—2.1266)	53.94 (2.124)
	Diameter of taper bearing contact area	16.989—17.000 (0.6689—0.6693)	16.93 (0.667)
	Diameter of drive bevel gear contact area	24.979—25.000 (0.9834—0.9843)	24.92 (0.981)
	Runout	0.02 (0.001) max.	0.05 (0.002)
Transfer drive bevel gear	I. D.	25.000—25.021 (0.9843—0.9851)	25.06 (0.987)
	Diameter of taper bearing contact area	35.002—35.018 (1.3780—1.3787)	34.95 (1.376)
Transfer driven bevel gear	Backlash	0.10—0.15 (0.004—0.006)	Adjust with shim
	Diameter of taper bearing contact area		
	Transfer driven gear side	35.002—35.018 (1.3780—1.3787)	34.95 (1.376)
	Locknut side	27.987—28.000 (1.1018—1.1024)	27.93 (1.100)

	MEASUREMENT	STANDARD (NEW)			
		Wire Dia.	O. D.	Free Length	No. of Coils
Springs	Regulator valve spring A	1.8 (0.07)	14.7 (0.58)	87.8 (3.46)	16.5
	Regulator valve spring B	1.8 (0.07)	9.6 (0.38)	44.0 (1.73)	7.5
	Stator reaction spring	5.5 (0.22)	26.40 (1.039)*	30.3 (1.19)	2.1
	Torque converter check valve spring	1.1 (0.04)	8.4 (0.33)	36.4 (1.43)	12
	Relief valve spring	1.0 (0.04)	8.4 (0.33)	52.0 (2.05)	23.0
	2nd orifice control valve spring	0.8 (0.03)	6.6 (0.26)	38.5 (1.52)	28
	Servo orifice control valve spring	0.9 (0.04)	6.1 (0.24)	35.9 (1.41)	20
	Throttle control valve B spring	1.6 (0.06)	8.5 (0.33)	41.3 (1.63)	13.9
	Throttle control valve B adjuster spring	0.8 (0.03)	6.2 (0.24)	30.0 (1.18)	8
	1-2 shift valve spring	0.9 (0.04)	8.6 (0.34)	40.4 (1.59)	14.5
	2-3 shift valve spring	0.8 (0.03)	8.6 (0.34)	35.8 (1.41)	10.6
	3-4 shift valve spring	0.8 (0.03)	7.6 (0.30)	59.7 (2.35)	22.7
	1st accumulator spring	2.0 (0.08)	13.7 (0.54)	71.3 (2.81)	8.0/11.0
	1st-hold accumulator spring	3.2 (0.13)	24.3 (0.96)	59.5 (2.34)	5.8
	4th accumulator spring	3.1 (0.12)	18.6 (0.73)	81.0 (3.19)	13.4
	2nd accumulator spring	2.7 (0.11)	16.1 (0.63)	88.4 (3.48)	16.0
	3rd accumulator spring	2.8 (0.11)	15.5 (0.61)	78.7 (3.10)	15
	Lock-up control valve spring	0.8 (0.03)	6.6 (0.26)	47.9 (1.89)	25.1
	Lock-up timing B valve spring	0.9 (0.04)	5.6 (0.22)	43.6 (1.72)	30.1
	CPC valve spring	1.4 (0.06)	9.4 (0.37)	33.0 (1.30)	10.5
	Lock-up shift valve spring	1.1 (0.04)	8.1 (0.32)	51.0 (2.01)	21.3
	4-2 kick down valve spring	0.9 (0.04)	6.4 (0.25)	42.7 (1.68)	20.8
	Cooler relief valve spring	1.1 (0.04)	8.4 (0.33)	36.4 (1.43)	12
	Modulator valve spring	0.9 (0.04)	8.6 (0.34)	18.2 (0.72)	5.54
	Servo control valve spring	1.0 (0.04)	8.1 (0.32)	42.0 (1.65)	16.5
	4th exhaust valve spring	0.9 (0.04)	6.6 (0.26)	37.0 (1.46)	18.7
	4-3 kick down valve spring	0.9 (0.04)	6.4 (0.25)	42.7 (1.68)	20.8

*: Inside Diameter

Unit of length: mm (in)

Differential 2WD M/T S20—Section 15

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Final driven gear	Backlash	0.070—0.130 (0.0028—0.0051)	0.180 (0.0071)
Differential carrier	Pinion shaft bore diameter	18.000—18.018 (0.7087—0.7094)	—
	Carrier-to-pinion shaft clearance	0.013—0.047 (0.0005—0.0019)	0.095 (0.0037)
	Driveshaft bore diameter	26.025—26.045 (1.0246—1.0254)	—
		28.025—28.045 (1.1033—1.1041)	—
	Carrier-to-driveshaft clearance	0.045—0.086 (0.0018—0.0034)	0.14 (0.006)
Differential pinion gear	Backlash	0.05—0.15 (0.002—0.006)	—
	Pinion gear bore diameter	18.042—18.066 (0.7103—0.7113)	—
	Pinion gear-to-pinion shaft clearance	0.055—0.095 (0.0022—0.0037)	0.15 (0.006)
Set ring-to-bearing outer race		0—0.10 (0.0—0.004)	Adjust with shim

Differential 2WD M/T Y21 (S21)—Section 15

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Final driven gear	Backlash	0.090—0.149 (0.0035—0.0059)	0.200 (0.0079)
Differential carrier	Pinion shaft bore diameter	18.000—18.016 (0.7087—0.7093)	—
	Carrier-to-pinion shaft clearance	0.013—0.045 (0.0005—0.0018)	0.10 (0.004)
	Driveshaft bore diameter	28.000—28.021 (1.1024—1.1033)	—
	Carrier-to-driveshaft clearance	0.025—0.066 (0.0010—0.0026)	0.12 (0.005)
Differential pinion gear	Backlash	0.05—0.15 (0.002—0.006)	—
	Pinion gear bore diameter	18.042—18.066 (0.7103—0.7113)	—
	Pinion gear-to-pinion shaft clearance	0.055—0.095 (0.0022—0.0037)	0.15 (0.006)
Set ring-to-bearing outer race		0—0.10 (0.0—0.004)	Adjust with shim

Differential 2WD A/T M48A—Section 15

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Final driven gear	Backlash	0.082—0.137 (0.0032—0.0054)	0.200 (0.0079)
Differential carrier	Pinion shaft bore diameter	15.000—15.018 (0.5906—0.5913)	—
	Carrier-to-pinion shaft clearance	0.016—0.052 (0.0006—0.0020)	0.10 (0.004)
	Driveshaft bore diameter	26.005—26.025 (1.0238—1.0246)	—
	Carrier-to-driveshaft clearance	0.025—0.063 (0.0010—0.0025)	0.12 (0.005)
Differential pinion gear	Backlash	0.05—0.15 (0.002—0.006)	—
	Pinion gear bore diameter	15.041—15.061 (0.5922—0.5930)	—
	Pinion gear-to-pinion shaft clearance	0.057—0.095 (0.0022—0.0037)	0.15 (0.006)
Set ring-to-bearing outer race		0—0.15 (0.0—0.006)	Adjust with shim

Standards and Service Limits

Differential 2WD A/T M24A — Section 15

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Final driven gear	Backlash	0.071 — 0.129 (0.0028 — 0.0051)	—
Differential carrier	Pinion shaft contact area I. D. Carrier-to-pinion shaft clearance Driveshaft contact area I. D. Carrier-to-driveshaft clearance Ball bearing contact area O. D.	18.000 — 18.018 (0.7087 — 0.7094) 0.013 — 0.047 (0.0005 — 0.0019) 26.005 — 26.025 (1.0238 — 1.0246) 0.025 — 0.066 (0.0010 — 0.0026) 40.002 — 40.018 (1.5749 — 1.5755)	— 0.10 (0.004) — 0.12 (0.005) —
Differential pinion gear	Backlash I. D. Pinion gear-to-pinion shaft clearance	0.05 — 0.15 (0.002 — 0.006) 18.041 — 18.061 (0.7103 — 0.7111) 0.054 — 0.090 (0.0021 — 0.0035)	— — 0.15 (0.006)
Set ring-to-bearing outer race		0 — 0.15 (0.0 — 0.006)	Adjust

Front Differential 4WD Transmission—Section 15

	MEASUREMENT	STANDARD (NEW)	SERVICE LIMIT
Final driven gear	Backlash	0.017 — 0.129 (0.0007 — 0.0051)	—
Differential carrier	Pinion shaft bore diameter Carrier-to-pinion shaft clearance Drivershaft bore diameter Carrier-to-driveshaft clearance Ball bearing bore diameter	18.000 — 18.018 (0.7087 — 0.7094) 0.013 — 0.047 (0.0005 — 0.0019) 28.005 — 28.025 (1.1026 — 1.1033) 0.025 — 0.066 (0.0010 — 0.0026) 40.002 — 40.018 (1.5749 — 1.5755)	— 0.10 (0.004) — 0.12 (0.005) —
Differential pinion gear	Backlash Pinion gear bore diameter Pinion gear-to-pinion shaft clearance	0.05 — 0.15 (0.002 — 0.006) 18.041 — 18.061 (0.7103 — 0.7111) 0.054 — 0.090 (0.0021 — 0.0035)	— — 0.15 (0.006)
Set ring-to-bearing outer race		0 — 0.15 (0.0 — 0.006)	Adjust

Rear Differential 4WD Transmission—Section 15

	MEASUREMENT	STANDARD (NEW)
Differential carrier assembly	Oil capacity	1.2 ℓ (1.3 US qt, 1.1 Imp qt) for overhaul 1.0 ℓ (1.1 US qt, 0.9 Imp qt) for oil change

Steering—Section 17

Unit of length: mm (in)

	MEASUREMENT		STANDARD (NEW)
Steering wheel	Play at steering wheel circumference		0—10 (0—0.4)
	Starting load at steering wheel circumference N (kg, lbs)		
	Manual steering		13—18 (1.30—1.80, 2.87—3.97)
	Power steering Engine running	LHD	Except B16A2: 30 (3.0, 6.6) B16A2: 25 (2.5, 5.5)
		RHD	25 (2.5, 5.5)
Gearbox	Angle of rack guide screw loosened from locked position	M/S	50±10°
		P/S LHD	20 $^{+5°}_{0°}$
		RHD	25° max.
	Preload at pinion gear shaft N•m (kg-cm, lb-in)	M/S	0.5—1.7 (5—17, 4.3—14.8)
		P/S	0.6—1.1 (6—11, 5.21—9.55)
Pump	Pump pressure with valve closed (oil temp./speed: 40°C (105°F) min./idle. Do not run for more than 5 seconds). kPa (kg/cm², psi)	LHD	8,000—9,000 (80—90, 1,138—1,280)
		RHD	5,500—6,500 (55—65, 782—924)
Power steering fluid	Recommended power steering fluid		HONDA Power Steering Fluid-V
	Fluid capacity ℓ (US qt, Imp qt) System	LHD	1.10 (1.16, 0.97)
		RHD	1.00 (1.06, 0.88)
	Reservoir		0.40 (0.42, 0.35)
Power steering belt*	Deflection with 100 N (10 kg, 22 lbs) between pulleys	Except D16A9	8.0—12.0 (0.31—0.47) with used belt 6.0—9.5 (0.24—0.37) with new belt
		D16A9	5.5—9.0 (0.22—0.35) with new belt
	Tension measured with belt tension gauge N (kg, lbs)	Except D16A9	350—500 (35—50, 77—110) with used belt 500—700 (50—70, 110—154) with new belt
		D16A9	550—750 (55—75, 121—165) with new belt

M/S: Manual steering, P/S: Power steering

*: When using a new belt, adjust deflection or tension to new values. Run the engine for 5 minutes then turn it off. Readjust the deflection or tension to used belt values.

Standards and Service Limits

Suspension—Section 18

	MEASUREMENT			STANDARD (NEW)	SERVICE LIMIT
Wheel alignmelnt	B16A2, B16A3	Camber	Front	−0°05′±1°	—
			Rear	−0°25′±1°	—
		Caster	Front	1°10′±1°	—
		Total toe	Front	0±2.0 (0±0.08)	—
			Rear	$2.0^{+2.0}_{-1.0}$ ($0.08^{+0.08}_{-0.04}$)	—
		Front wheel turning angle	Inward wheel	36°±2°	—
			Outward wheel	30°30′	—
	2WD except B16A2, B16A3				
		Camber	Front	0°00′±1°	—
			Rear	−0°20′±1°	—
		Caster	Front	1°10′±1°	—
		Total toe	Front	0±2.0 (0±0.08)	—
			Rear	$2.0^{+2.0}_{-1.0}$ ($0.08^{+0.08}_{-0.04}$)	—
		Front wheel turning angle	Inward wheel	41°±2°	—
			Outward wheel	33°30′	—
	4WD	Camber	Front	0°15′±1°	—
			Rear	−0°25′±1°	—
		Caster	Front	1°05′±1°	—
		Total toe	Front	0±2.0 (0±0.08)	—
			Rear		
			without ABS	$2.0^{+2.0}_{-1.0}$ ($0.08^{+0.08}_{-0.04}$)	—
			with ABS	$0^{+1.0}_{-2.0}$ ($0^{+0.04}_{-0.08}$)	—
		Front wheel turning angle	Inward wheel	41°±2°	—
			Outward wheel	33°30′	—
Wheel	Rim runout	Aluminum wheel	Axial	0−0.7 (0.0−0.03)	2.0 (0.08)
			Radial	0−0.7 (0.0−0.03)	1.5 (0.06)
		Steel wheel	Axial	0−1.0 (0.0−0.04)	2.0 (0.08)
			Radial	0−1.0 (0.0−0.04)	1.5 (0.06)
Wheel bearing	End play		Front	0−0.05 (0.0−0.002)	—
			Rear	0−0.05 (0.0−0.002)	—

Brakes—Section 19

Unit of length: mm (in)

	MEASUREMENT		STANDARD (NEW)	SERVICE LIMIT
Parking brake lever	Play in stroke at 200 N (20 kg, 44 lbs) lever force		To be locked when pulled 6—10 notches	—
Foot brake pedal	Pedal height (with floor mat removed)	M/T	160.0 (6.30)	—
		A/T	165.0 (6.50)	—
	Free play		1—5 (1/16—13/64)	—
Master cylinder	Piston-to-pushrod clearance		0—0.40 (0.0—0.016)	—
Disc brake	Disc thickness	Front	21.0 (0.83)	19.0 (0.75)
		D13B2, D13B3 3D	17.0 (0.67)	15.0 (0.59)
		Rear	9.0 (0.35)	8.0 (0.31)
	Disc runout	Front	—	0.10 (0.004)
		Rear	—	0.10 (0.004)
	Disc parallelism	Front and Rear	—	0.015 (0.0006)
		Front D13B2, D13B3 3D	9.5 (0.37)	1.60 (0.063)
		B16A2, B16A3, D16Z7 (4WD)	10.0 (0.39)	1.60 (0.063)
		Others	9.0 (0.35)	1.60 (0.063)
		Rear	7.5 (0.30)	1.60 (0.063)
Rear brake drum	I. D.	2WD	180.0 (7.09)	181.0 (7.13)
		4WD	200.0 (7.87)	201.0 (7.91)
	Lining thickness	2WD	4.5 (0.18)	2.0 (0.08)
		4WD	4.0 (0.16)	2.0 (0.08)
Brake booster	Characteristics at 200 N (20 kg, 44 lbs) pedal force.		Vacuum mmHg (inHg)	Line pressure kPa (kg/cm², psi)
		D16Z7 (4WD) without ABS	0 (0.0)	1,310 (13.1, 186)
			300 (11.8)	5,460 (54.6, 776)
			500 (19.7)	8,300 (83.0, 1,180)
		B16A2, B16A3 without ABS	0 (0.0)	1,310 (13.1, 186)
			300 (11.8)	5,460 (54.6, 776)
			500 (19.7)	7,650 (76.5, 1,088)
		D16Z7 (4WD) and B16A2, B16A3 with ABS	0 (0.0)	920 (9.2, 131)
			300 (11.8)	5,570 (55.7, 792)
			500 (19.7)	8,740 (87.4, 1,243)
		D13B2, D13B3 3D	0 (0.0)	1,520 (15.2, 216)
			300 (11.8)	5,310 (53.1, 755)
			500 (19.7)	7,880 (78.8, 1,121)
		Others	0 (0.0)	1,520 (15.2, 216)
			300 (11.8)	6,380 (63.8, 907)
			500 (19.7)	8,870 (88.7, 1,261)

Standards and Service Limits

Air Conditioning—Section 22

	MEASUREMENT		STANDARD (NEW)
Air conditioning system HADSYS Engine type: D15B7, D15Z1, D16Z6, D16Z7, D16Y1	Lubricant type: SP−10 (P/N 38899−P13−003) (For Refrigerant: HFC-134a (R-134a))		
	Lubricant capacity m ℓ (fl oz, Imp oz)	Condenser	20 (2/3, 0.7)
		Evaporator	45 (1 1/2, 1.6)
		Line or hose	10 (1/3, 0.4)
		Receiver	10 (1/3, 0.4)
MATSUSHITA Engine type: D12B1, D13B2, D13B3, D15B2, D15B3, D15Y2	Lubricant type: GU10 (P/N 38899−P08−003) (For Refrigerant: HFC-134a (R-134a))		
	Lubricant capacity m ℓ (fl oz, Imp oz)	Condenser	15 (1/2, 0.5)
		Evaporator	35 (1 1/6, 1.2)
		Line or hose	10 (1/3, 0.4)
		Receiver	10 (1/3, 0.4)
NIPPONDENSO Engine type: B16A2, B16A3	Lubricant type: ND−OIL8 (P/N 38899−PR7−003) (For Refrigerant: HFC-134a (R-134a))		
	Lubricant capacity m ℓ (fl oz, Imp oz)	Condenser	25 (5/6, 0.9)
		Evaporator	60 (2.0, 2.1)
		Line or hose	10 (1/3, 0.4)
		Receiver	10 (1/3, 0.4)
Compressor HADSYS Engine type: D15B7, D15Z1, D16Z6, D16Z7, D16Y1	Lubricant type: SP−10 (P/N 38899−P13−003) (For Refrigerant: HFC-134a (R-134a))		
	Lubricant capacity m ℓ (fl oz, Imp oz)		120 (4.1, 4.2)
	Field coil resistance at 20°C (68°F) Ω		2.65−2.95
	Pulley-to-pressure plate clearance		0.5±0.15 (0.02±0.006)
MATSUSHITA Engine type: D12B1, D13B2, D13B3, D15B2, D15B3, D15Y2	Lubricant type: GU10 (P/N 38899−P08−003) (For Refrigerant: HFC-134a (R-134a))		
	Lubricant capacity m ℓ (fl oz, Imp oz)		140 (4 2/3, 4.9)
	Field coil resistance at 20°C (68°F) Ω		3.16−3.50
	Pulley-to-pressure plate clearance		0.5±0.1 (0.02±0.004)
NIPPONDENSO Engine type: B16A2, B16A3	Lubricant type: ND−OIL8 (P/N 38899−PR7−003) (For Refrigerant: HFC-134a (R-134a))		
	Lubricant capacity m ℓ (fl oz, Imp oz)		120 (4.1, 4.2)
	Stator coil resistance at 20°C (68°F) Ω		3.4−3.8
	Pulley-to-pressure plate clearance		0.5±0.15 (0.02±0.006)
Compressor belt*	Deflection with 98 N (10 kg, 22 lbs) between pulleys		6.5−10.5 (0.26−0.41) with used belt 5.0−7.0 (0.20−0.28) with new belt
	Belt tension N (kg, lbs) Measured with belt tension gauge		350−500 (35−50, 77−110) with used belt 600−800 (60−80, 132−176) with new belt

*: When using a new belt, adjust deflection or tension to new values. Run the engine for 5 minutes then turn it off. Readjust deflection or tension to used belt values.

Electrical—Section 23

Unit of length: mm (in)

	MEASUREMENT	STANDARD (NEW)	
Ignition coil	Rated voltage V	12	
	Primary winding resistance Ω at 20°C (68°F)	0.5—0.7*1	0.6—0.8*2
	Secondary winding resistance kΩ at 20°C (68°F)	14.4—21.6*1	13.2—19.8*2
Spark plug	Type	See Section 23	
	Gap	1.1 $^{0}_{-0.1}$ (0.043 $^{0}_{-0.004}$)	
Ignition timing	At idle °BTDC	D15B3 (A/T): 12° ±2° (Red) BTDC D13B2, B13B3, D15Z2, D15B3 (M/T), D15B4: 20° ±2° (Red) BTDC Others: 16° ±2° (Red) BTDC	
Alternator belt*3	Deflection with 100 N (10 kg, 22 lbs) between pulleys Except B16A2, B16A3	7.0—10.5 (0.28—0.41) with used belt 5.5—8.0 (0.22—0.31) with new belt	
	B16A2, B16A3	5.0—7.0 (0.20—0.28) with new belt	
	Tension measured with belt tension gauge N (kg, lbs) Except B16A2, B16A3	350—500 (35—50, 77—110) with used belt 550—750 (55—75, 121—165) with new belt	
	B16A2, B16A3	700—900 (70—90, 154—198) with new belt	
Alternator (NIPPONDENSO)	Output 13.5 V at hot A	70	
	Coil resistance (rotor) Ω	2.3	—
	Slip ring O. D.	14.40 (0.567)	14.00 (0.551)
	Brush length	10.5 (0.41)	1.5 (0.06)
	Brush spring tension g (oz)	330 (11.7)	—
Alternator (MITSUBISHI)	Output 13.5 V at hot A	70	
	Coil resistance (rotor) Ω	3.4—3.8	—
	Slip ring O. D.	22.7 (0.89)	22.2 (0.87)
	Brush length	20.0 (0.79)	5.0 (0.20)
	Brush spring tension g (oz)	300—450 (10.6—15.9)	—
Alternator (NIPPONDENSO)	Output 13.5 V at hot A	80	
	Coil resistance (rotor) Ω	2.9	—
	Slip ring O. D.	14.40 (0.567)	14.00 (0.551)
	Brush length	10.5 (0.41)	1.5 (0.06)
	Brush spring tension g (oz)	300—360 (10.6—12.7)	—
Starter motor (HITACHI 0.8 kW)	Type	Direct drive	
	Mica depth	0.5—0.8 (0.02—0.03)	0.20 (0.008)
	Commutator runout	0—0.10 (0—0.004)	0.40 (0.016)
	Commutator O. D.	40.00 (1.575)	39.00 (1.535)
	Brush length	14.5—15.5 (0.57—0.61)	11.0 (0.43)
	Brush spring tension (new) N (kg, lbs)	13 (1.3, 2.9)	—
Starter motor (MITSUBA 1.0 kW, 1.2 kW, 1.4 kW)	Type	Gear reduction	
	Mica depth	0.40—0.50 (0.016—0.020)	0.15 (0.006)
	Commutator runout	0—0.02 (0—0.001)	0.05 (0.002)
	Commutator O. D.	28.00—28.10 (1.102—1.106)	27.50 (1.083)
	Brush length 1.0kW, 1.2kW	14.3—14.7 (0.56—0.58)	9.5 (0.37)
	1.4kW	15.8—16.2 (0.62—0.64)	11.0 (0.43)
	Brush spring tension (new) 1.0kW, 1.2kW	18.5—23.5 (1.85—2.35, 4.08—5.18)	—
	N (kg, lbs) 1.4kW	16—18 (1.6—1.8, 3.5—4.0)	—
Starter motor (NIPPONDENSO 1.0 kW, 1.2 kW)	Type	Gear reduction	
	Mica depth	0.5—0.8 (0.02—0.03)	0.20 (0.008)
	Commutator runout	0—0.02 (0—0.001)	0.05 (0.002)
	Commutator O. D.	29.90—30.00 (1.177—1.181)	29.0 (1.14)
	Brush length 1.0kW	13.0—13.5 (0.51—0.53)	8.5 (0.33)
	1.2kW	15.0—15.5 (0.59—0.61)	10.0 (0.39)
	Brush spring tension (new) 1.0kW	18—24 (1.8—2.4, 4.0—5.3)	—
	N (kg, lbs) 1.2kW	13—21 (1.3—2.1, 2.9—4.6)	—

*1: D12B1, D13B2, D13B3, D15B3, D15Z2 engines
*2: D15B2, D15B7, D15Z1, D16A7, D16A9, D16Z6, D16Z7, D16Y1, B16A2, B16A3 engines
*3: When using a new belt, adjust deflection or tension to new belt values. Run the engine for 5 minutes then turn it off. Readjust deflection or tension to used belt values.

Design Specifications

	ITEMS		METRIC (ENGLISH)	NOTES
DIMENSIONS 2-door Hatchback	Overall length		4,080 mm (160.6 in) 4,090 mm (161.0 in) 4,070 mm (160.2 in) 4,075 mm (160.4 in)	Except KQ, KY For Finland only KQ, KM KY
	Overall width		1,695 mm (66.7 in) 1,700 mm (66.9 in)	Except KM KM
	Overall height		1,345 mm (53.0 in) 1,350 mm (53.1 in) 1,355 mm (53.3 in)	Except KM, KY KM KY
	Wheelbase		2,570 mm (101.2 in)	
	Track	Front	1,475 mm (58.1 in)	
		Rear	1,465 mm (57.7 in)	
	Ground clearance		160 mm (6.3 in) 150 mm (5.9 in)	 Except VEi model with CATA
	Seating capacity	Except cars with B16A2, B16A3 engines	Five (5)	
		Cars with B16A2, B16A3 engines	Four (4)	
DIMENSIONS 4-door Sedan	Overall length		4,405 mm (173.4 in) 4,415 mm (173.8 in) 4,395 mm (173.0 in)	Except KQ, KY, KM For Finland only KQ, KY, KM
	Overall width		1,695 mm (66.7 in) 1,370 mm (53.9 in)	 KM
	Overall height		1,375 mm (54.1 in) 1,390 mm (54.7 in) 1,395 mm (54.9 in)	2WD KY 4WD
	Wheelbase		2,620 mm (103.1 in)	
	Track	Front	1,475 mm (58.1 in)	
		Rear 2WD	1,465 mm (57.7 in)	
		4WD	1,455 mm (57.3 in)	
	Ground clearance		160 mm (6.3 in) 150 mm (5.9 in)	 Except VEi model with CATA
	Seating capacity	Except cars with B16A2, B16A3 engines	Five (5)	
		Cars with B16A2, B16A3 engines	Four (4)	

European Model

	ITEM			METRIC (ENGLISH)	NOTES
2-door Hatchback					
WEIGHT	Curb weight	DX	M/T	955 kg (2,105 lbs)	KG, KF, KE
				960 kg (2,116 lbs)	KS
		EX	M/T	970 kg (2,138 lbs)	KG (Austria)
		VEi	M/T	975 kg (2,149 lbs)	KG, KF, KE
				980 kg (2,161 lbs)	KS
		DXi	M/T	965 kg (2,127 lbs)	KG
				970 kg (2,138 lbs)	KS
			A/T	995 kg (2,194 lbs)	KG, KF
				1,000 kg (2,205 lbs)	KS
		LSi	M/T	980 kg (2,161 lbs)	KG, KF, KE, KW
				985 kg (2,172 lbs)	KS
			A/T	1,010 kg (2,227 lbs)	KG, KF, KE, KW
				1,015 kg (2,238 lbs)	KS
		ESi	M/T	1,015 kg (2,238 lbs)	KG, KF
				1,030 kg (2,271 lbs)	KE
				1,020 kg (2,249 lbs)	KS
			A/T	1,045 kg (2,304 lbs)	KG, KF
				1,060 kg (2,337 lbs)	KE
				1,050 kg (2,315 lbs)	KS
		VTi	M/T	1,100 kg (2,425 lbs)	KG, KF, KW
				1,105 kg (2,436 lbs)	KS
	Weight distributions (Front/Rear)				
		DX	M/T	580 (1,279)/375 kg (827 lbs)	KG, KF, KE
				585 (1,290)/375 kg (827 lbs)	KS
		EX	M/T	595 (1,312)/375 kg (827 lbs)	KG, KF
		VEi	M/T	600 (1,323)/375 kg (827 lbs)	KG, KF, KE
				605 (1,334)/375 kg (827 lbs)	KS
		DXi	M/T	590 (1,301)/375 kg (827 lbs)	KG, KF
				595 (1,312)/375 kg (827 lbs)	KS
			A/T	620 (1,367)/375 kg (827 lbs)	KG, KF
				625 (1,378)/375 kg (827 lbs)	KS
		LSi	M/T	605 (1,334)/375 kg (827 lbs)	KG, KF, KE, KW
				610 (1,345)/375 kg (827 lbs)	KS
			A/T	635 (1,400)/375 kg (827 lbs)	KG, KF, KE, KW
				640 (1,411)/375 kg (827 lbs)	KS
		ESi	M/T	625 (1,378)/390 kg (860 lbs)	KG, KF
				635 (1,400)/395 kg (871 lbs)	KE
				630 (1,389)/390 kg (860 lbs)	KS
			A/T	655 (1,444)/390 kg (860 lbs)	KG, KF
				665 (1,466)/395 kg (871 lbs)	KE
				660 (1,455)/390 kg (860 lbs)	KS
		VTi	M/T	695 (1,532)/405 kg (893 lbs)	KG, KF, KW
				700 (1,543)/405 kg (893 lbs)	KS
	Max. permissible weight (EC)				
		DX		1,380 kg (3,042 lbs)	
		EX, VEi, DXi, LSi, VTi		1,460 kg (3,219 lbs)	
		ESi		1,500 kg (3,307 lbs)	

Design Specifications
European Model

	ITEM			METRIC (ENGLISH)	NOTES
4-door Sedan					
WEIGHT	Curb weight	VEi	M/T	1,010 kg (2,227 lbs)	KG, KE, KF
				1,015 kg (2,238 lbs)	KS
		DXi	M/T	1,000 kg (2,205 lbs)	KG
				1,005 kg (2,216 lbs)	KS
			A/T	1,030 kg (2,271 lbs)	KG
				1,035 kg (2,282 lbs)	KS
		LSi	M/T	1,015 kg (2,238 lbs)	KG, KE, KF, KW
				1,020 kg (2,249 lbs)	KS
			A/T	1,045 kg (2,304 lbs)	KG, KE, KF, KW
				1,050 kg (2,315 lbs)	KS
		ESi	M/T	1,050 kg (2,315 lbs)	KG, KE, KF, KW
				1,055 kg (2,326 lbs)	KS
			A/T	1,080 kg (2,381 lbs)	KG, KE, KF, KW
				1,085 kg (2,392 lbs)	KS
		ESi with ABS	M/T	1,065 kg (2,348 lbs)	KG, KE, KF, KW
				1,070 kg (2,359 lbs)	KS
			A/T	1,095 kg (2,414 lbs)	KG, KE, KF, KW
				1,100 kg (2,425 lbs)	KS
		VTi	M/T	1,140 kg (2,513 lbs)	KG, KE, KF, KW
				1,145 kg (2,524 lbs)	KS
		RSTi	M/T	1,140 kg (2,513 lbs)	KG
			A/T	1,160 kg (2,557 lbs)	KG
	Weight distributions (Front/Rear)				
		VEi	M/T	605 (1,334) / 405 kg (893 lbs)	KG, KE, KF
				610 (1,345) / 405 kg (893 lbs)	KS
		DXi	M/T	595 (1,312) / 405 kg (893 lbs)	KG
				600 (1,323) / 405 kg (893 lbs)	KS
			A/T	625 (1,378) / 405 kg (893 lbs)	KG
				630 (1,389) / 405 kg (893 lbs)	KS
		LSi	M/T	610 (1,345) / 405 kg (893 lbs)	KG, KE, KF, KW
				615 (1,356) / 405 kg (893 lbs)	KS
			A/T	640 (1,411) / 405 kg (893 lbs)	KG, KE, KF, KW
				645 (1,422) / 405 kg (893 lbs)	KS
		ESi	M/T	630 (1,389) / 420 kg (926 lbs)	KG, KE, KF, KW
				635 (1,400) / 420 kg (926 lbs)	KS
			A/T	660 (1,455) / 420 kg (926 lbs)	KG, KE, KF, KW
				665 (1,466) / 420 kg (926 lbs)	KS
		ESi with ABS	M/T	640 (1,411) / 425 kg (937 lbs)	KG, KE, KF, KW
				645 (1,422) / 425 kg (937 lbs)	KS
			A/T	670 (1,477) / 425 kg (937 lbs)	KG, KE, KF, KW
				675 (1,488) / 425 kg (937 lbs)	KS
		VTi	M/T	705 (1,554) / 435 kg (959 lbs)	KG, KE, KF, KW
				710 (1,565) / 435 kg (959 lbs)	KS
		RTSi	M/T	675 (1,488) / 465 kg (1,025 lbs)	KG
			A/T	695 (1,532) / 465 kg (1,025 lbs)	KG
	Max. permissible weight				
		VEi, DXi, LSi		1,500 kg (3,307 lbs)	
		ESi		1,530 kg (3,373 lbs)	
		ESi with ABS		1,545 kg (3,406 lbs)	
		VTi		1,520 kg (3,351 lbs)	
		RTSi		1,640 kg (3,616 lbs)	

Except European Model

	ITEM			METRIC (ENGLISH)	NOTES
2-door Hatchback					
WEIGHT	Curb weight	CX	M/T	1,000 kg (2,205 lbs)	KQ
		GLi	M/T	1,013 kg (2,233 lbs)	KQ
			A/T	1,039 kg (2,291 lbs)	KQ
		VTi	M/T	1,051 kg (2,317 lbs)	KQ
			A/T	1,077 kg (2,374 lbs)	KQ
		1.5EL	M/T	993 kg (2,189 lbs)	KY
			A/T	1,013 kg (2,233 lbs)	KY
		EX	M/T	1,008 kg (2,222 lbs)	KY
			A/T	1,028 kg (2,266 lbs)	KY
		DX	M/T	960 kg (2,116 lbs)	KM
			A/T	990 kg (2,183 lbs)	KM
		Si	M/T	1,020 kg (2,249 lbs)	KM
		VTi	M/T	1,050 kg (2,315 lbs)	KM
	Weight distributions (Front/Rear)				
		CX	M/T	610 (1,345) / 390 kg (860 lbs)	KQ
		GLi	M/T	619 (1,365) / 394 kg (869 lbs)	KQ
			A/T	647 (1,426) / 392 kg (864 lbs)	KQ
		VTi	M/T	639 (1,409) / 412 kg (908 lbs)	KQ
			A/T	665 (1,466) / 412 kg (908 lbs)	KQ
		1.5EL	M/T	611 (1,347) / 382 kg (842 lbs)	KY
			A/T	635 (1,400) / 378 kg (833 lbs)	KY
		EX	M/T	624 (1,376) / 384 kg (847 lbs)	KY
			A/T	648 (1,429) / 380 kg (838 lbs)	KY
		DX	M/T	585 (1,290) / 375 kg (827 lbs)	KM
			A/T	615 (1,356) / 375 kg (827 lbs)	KM
		Si	M/T	630 (1,389) / 390 kg (860 lbs)	KM
		VTi	M/T	660 (1,455) / 390 kg (860 lbs)	KM

Design Specifications

Except European Model

	ITEM			METRIC (ENGLISH)	NOTES
4-door Sedan					
WEIGHT	Curb weight	VEi	M/T	1,043 kg (2,299 lbs)	KQ
		GLi	M/T	1,046 kg (2,306 lbs)	KQ
			A/T	1,072 kg (2,363 lbs)	KQ
		VTi	M/T	1,088 kg (2,399 lbs)	KQ
			A/T	1,119 kg (2,467 lbs)	KQ
		1.5EL	M/T	1,017 kg (2,242 lbs)	KY
			A/T	1,037 kg (2,286 lbs)	KY
		1.5EX	M/T	1,045 kg (2,304 lbs)	KY
			A/T	1,065 kg (2,348 lbs)	KY
		Si	M/T	1,090 kg (2,403 lbs)	KY
			A/T	1,115 kg (2,458 lbs)	KY
		LX	M/T	1,050 kg (2,315 lbs)	KM
			A/T	1,080 kg (2,381 lbs)	KM
		EX	A/T	1,140 kg (2,513 lbs)	KM
	Weight distributions (Front/Rear)				
		VEi	M/T	634 (1,398) / 409 kg (902 lbs)	KQ
		GLi	M/T	626 (1,380) / 420 kg (926 lbs)	KQ
			A/T	668 (1,473) / 420 kg (926 lbs)	KQ
		VTi	M/T	644 (1,420) / 444 kg (979 lbs)	KQ
			A/T	677 (1,493) / 442 kg (974 lbs)	KQ
		1.5EL	M/T	625 (1,378) / 392 kg (864 lbs)	KY
			A/T	649 (1,431) / 388 kg (855 lbs)	KY
		1.5EX	M/T	633 (1,396) / 412 kg (908 lbs)	KY
			A/T	657 (1,448) / 408 kg (899 lbs)	KY
		Si	M/T	649 (1,431) / 441 kg (972 lbs)	KY
			A/T	680 (1,499) / 435 kg (959 lbs)	KY
		LX	M/T	630 (1,389) / 420 kg (926 lbs)	KM
			A/T	660 (1,455) / 420 kg (926 lbs)	KM
		EX	A/T	705 (1,554) / 435 kg (959 lbs)	KM

	ITEM	METRIC (ENGLISH)	NOTES
ENGINE	Type Except B16A2, B16A3, D16A9	Water-cooled, 4-stroke SOHC*1 or SOHC VTEC*2 gasoline engine	*1: Except D15Z1, D16Z6, D16Y1, B16A2, B16A3, D16A9 *2: D15Z1,D16Z6, D16Y1 *3: D16A9 *4: B16A2, B16A3
	B16A2, B16A3, D16A9	Water-cooled, 4-stroke DOHC*3 or DOHC VTEC*4 gasoline engine	
	Cylinder Arrangement	4-cylinders Inline, transverse	
	Bore and Stroke		
	D12B1	75.0 x 67.5 mm (2.95 x 2.66 in)	
	D13B2, D13B3	75.0 x 76.0 mm (2.95 x 2.99 in)	
	D15B2, D15B3, D15B7, D15Z1, D15Z2	75.0 x 84.5 mm (2.95 x 3.33 in)	
	D16A7, D16A9, D16Z6, D16Z7, D16Z9, D16Y1	75.0 x 90.5 mm (2.95 x 3.56 in)	
	B16A2, B16A3	81.0 x 77.4 mm (3.19 x 3.05 in)	
	Displacement		
	D12B1	1,193 cm^3 (72.8 cu-in)	
	D13B2, D13B3	1,343 cm^3 (82.0 cu-in)	
	D15B2, D15B3, D15B7, D15Z1, D15Z2	1,493 cm^3 (91.1 cu-in)	
	D16A7, D16A9, D16Z6, D16Z7, D16Z9, D16Y1	1,599 cm^3 (97.6 cu-in)	
	B16A2, B16A3	1,595 cm^3 (97.3 cu-in)	
	Compression Ratio		
	D12B1	8.6	
	D13B2, D13B3	9.0	
	D15B2, D15B3, D15B7, D15Z2	9.2	
	D15Z1	9.3	
	D16A7	9.1	
	D16Z6, D16Z7, D16Z9, D16Y1	9.2	
	D16A9	9.5	
	B16A2, B16A3	10.2	
	Valve Train		
	Except B16A2, B16A3, D16A9	Belt driven, 4 valves per cylinder, SOHC*1 or SOHC VTEC*2	
	B16A2, B16A3, D16A9	Belt driven, 4 valves per cylinder, DOHC*3 or DOHC VTEC*4	
	Lubrication System	Forced and wet sump, trochoid pump	
	Oil Pump Displacement		
	Except B16A2, B16A3, D16A9	45 ℓ (48 US qt, 40 Imp qt)/minute	
	D16A9	63 ℓ (67 US qt, 55 Imp qt)/minute	
	B16A2, B16A3	73 ℓ (77 US qt, 64 Imp qt)/minute	
	Water Pump Displacement at 6,000 min^{-1} (rpm)		
	Except B16A2, B16A3, D16A9	125 ℓ (132 US qt, 110 Imp qt)/minute	
	D16A9	112 ℓ (118 US qt, 99 Imp qt)/minute	
	B16A2, B16A3	140 ℓ (148 US qt, 123 Imp qt)/minute	At 6,300 min^{-1} (rpm)
	Fuel Required D12B1	Leaded gasoline with 85 R.O.N. or higher*5	At 6,800 min^{-1} (rpm)
	D13B3, D15B3	Leaded gasoline with 91 R.O.N. or higher*5	At 7,800 min^{-1} (rpm)
	D13B2, D15B2, D15Z2	Unleaded gasoline with 91 R.O.N. or higher	
	D15B7, D15Z1, D16Y1		
	D16Z6, D16Z7, D16Z9, B16A2	Premium unleaded gasoline with 95 R. O. N. or higher	
	B16A3		
	D16A9	Premium leaded gasoline with 95 R. O. N. or higher*6	
	D16A7	Leaded gasoline with 91 R.O.N. or higher*5	

*5: Unleaded gasoline with 91 R.O.N. or higher may also be used.
*6: Premium unleaded gasoline with 95 R.O.N. or higher may also be used.

Design Specifications

	ITEM	METRIC (ENGLISH)	NOTES
STARTER	Make/Type, Output	HITACHI/Direct drive, 0.8 kW MITSUBA/Gear reduction, 1.0 kW, 1.2 kW and 1.4 kW NIPPONDENSO/Gear reduction, 1.0 kW, 1.2 kW	
	Normal Output	0.8 kW, 1.0 kW, 1.2 kW, 1.4 kW	
	Normal Voltage	12 V	
	Hour Rating	30 seconds	
	Direction of Rotation	Clockwise as viewed from gear end	
	Weight HITACHI 0.8 kW	3.7 kg (8.2 lbs)	
	MITSUBA 1.0 kW, 1.2 kW	3.4 kg (7.5 lbs)	
	1.4 kW	3.5 kg (7.7 lbs)	
	NIPPONDENSO 1.0 kW	3.85 kg (8.49 lbs)	
	1.2 kW	3.4 kg (7.5 lbs)	
CLUTCH	Type M/T	Single plate dry, diaphragm spring	
	A/T	Torque converter	
	Clutch Facing Area M/T		
	Carbureted engine	160 cm² (25 sq-in)	
	PGM-FI engine except B16A2, B16A3	176 cm² (27 sq-in)	
	B16A2, B16A3 engine	203 cm² (31 sq-in)	
TRANSMISSION	Type M/T	Synchronized 5-speed forward, 1 reverse	*1: Except KS *2: KS *3: D13B2 only
	A/T 2WD	4-speed automatic with lock-up clutch, 1 reverse	
	A/T 4WD	Electronically controlled 4-speed automatic, 1 reverse	
	Primary Reduction Gear Type, Ratio	Direct, 1:1	

Manual Transmission

		Engine Type						
		D12B1, D13B2, D13B3, D15B2, D15B3, D15Z2, D16A7, D16A9	D15Z1	D16Z6*1, D16Z7 (2WD), D16Z9, D16Y1	D16Z6*2	D16Z7 (4WD)	B16A2	B16A3
Gear Ratio	1st	3.250	3.250	3.250	3.250	3.384	3.230	3.307
	2nd	1.900	1.761	1.900	1.900	1.952	2.105	2.105
	3rd	1.250	1.172	1.250	1.250	1.266	1.458	1.458
	4th	0.909	0.909	0.937	0.909	0.942	1.107	1.107
	5th	0.750	0.702	0.771	0.702	0.789	0.875	0.848
	Reverse	3.153	3.153	3.153	3.153	3.000	3.000	3.000
Final Reduction Gear	Ratio	4.250 4.437*3	3.722	4.250	4.250	4.428	4.266	4.400
	Type	Single helical gear						

	ITEM		METRIC (ENGLISH)				NOTES
TRANSMISSION	Automatic Transmission		Engine Type				*1: Except KS *2: KS
			D12B1, D15B3, D16A9	D15B2 D16Z9 D15B7 D16Z6*1 D16Z7 (2WD) D16Y1	D16Z6*2	D16Z7 (4WD)	
	Gear Ratio	1st	2.722	2.600	2.600	2.526	
		2nd	1.555	1.393	1.468	1.428	
		3rd	1.027	0.975	0.975	0.974	
		4th	0.780	0.772	0.638	0.733	
		Reverse	1.954	1.954	1.954	1.954	
	Final Reduction Gear	Ratio	3.937	4.333	4.333	4.333	
		Type	Single helical gear				
AIR CONDITIONING	Cooling Capacity	HADSYS	3,351 kcal/h (13,290 BTU/h)				RHD
			3,838 kcal/h (15,220 BTU/h)				LHD
		MATSUSHITA	3,851 kcal/h (15,270 BTU/h)				
		NIPPONDENSO	3,851 kcal/h (15,270 BTU/h)				
	Compressor	Type/Make	Scroll/HADSYS				Except B16A2, B16A3 D15B2, D15Z1
		No. of Cylinder	—				
		Capacity	85.7 cm^3/rev (5.23 cu-in/rev)				
		Max. Speed	10,000 min^{-1} (rpm)				
		Lubricant Type	SP-10				
		Lubricant Capacity	120 m ℓ (4 fl oz, 4.2 Imp oz)				
	Compressor	Type/Make	Vane rotary/MATSUSHITA				D15B2, D15Z1
		No. of Cylinder	—				
		Capacity	150 cm^3/rev (9.15 cu-in/rev)				
		Max. Speed	8,000 min^{-1} (rpm)				
		Lubricant Type	GU10				
		Lubricant Capacity	140 m ℓ (4 2/3 fl oz, 4.9 Imp oz)				
	Compressor	Type/Make	Swash-plate/NIPPONDENSO				B16A2, B16A3
		No. of Cylinder	10				
		Capacity	155.3 cm^3/rev (9.47 cu-in/rev)				
		Max. Speed	7,600 min^{-1} (rpm)				
		Lubricant Type	ND-OIL8				
		Lubricant Capacity	120 m ℓ (4 fl oz, 4.2 Imp oz)				
	Condenser	Type	Corrugated fin				
	Evaporator	Type	Corrugated fin				
	Blower	Type	Sirocco fan				At 12V
		Motor Input	200 W/12 V max.				
		Speed Control	4-speed				
		Max. Capacity	430 m^3/h (15,188 cu-ft/h)				

Design Specifications

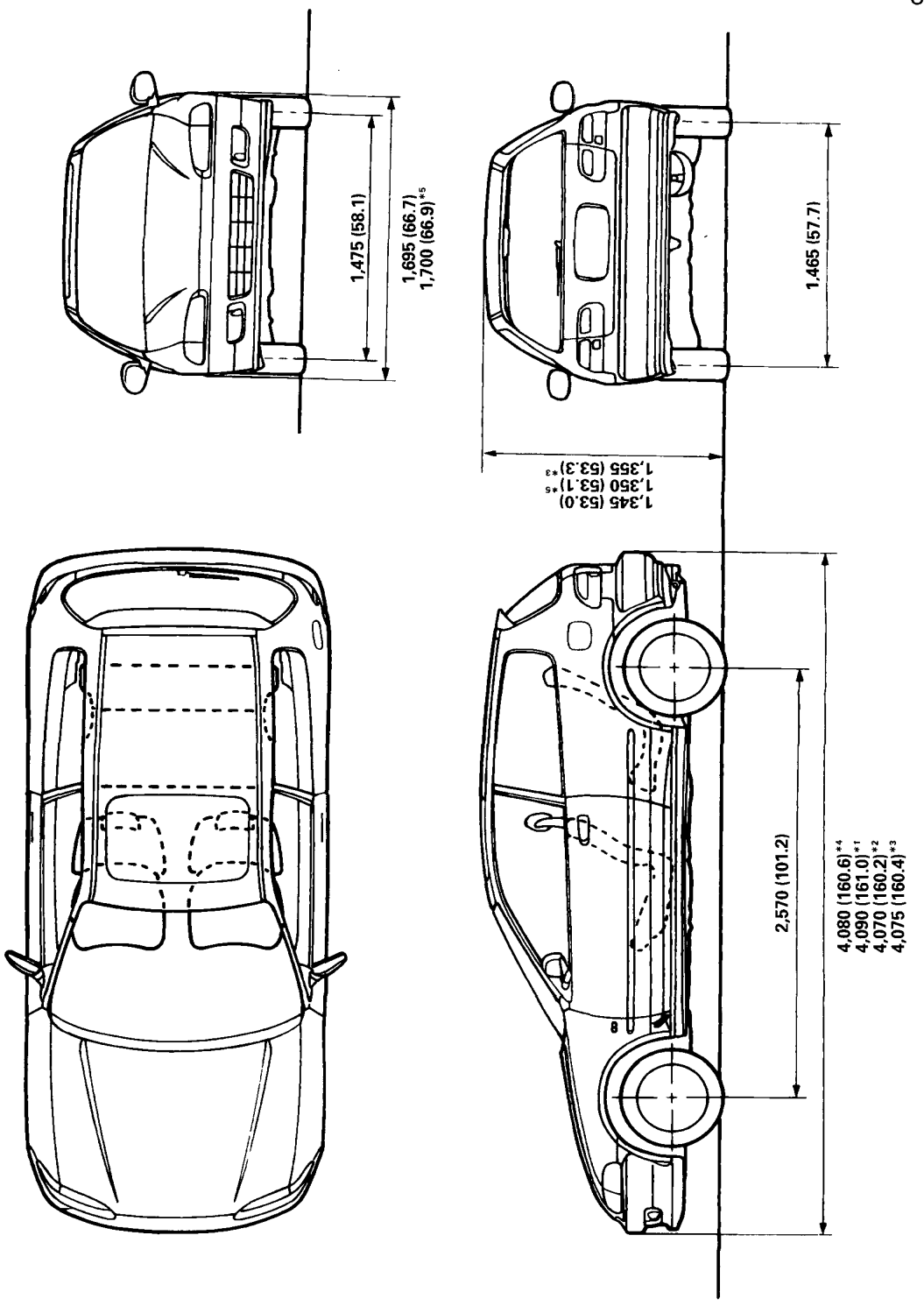
	ITEM		METRIC (ENGLISH)	NOTES
AIR CONDITIONING	Temp. Control	Type	Air-mix	
	Compressor Clutch	Type Power Consumption	Dry, single plate, poly-V belt drive 42 W max. /12 V 40 W max. /12 V	 HADSYS Except HADSYS
	Refrigerant	Type Quantity	HFC-134a (R-134a) 550 $^{0}_{-50}$ g (19.4 $^{0}_{-1.8}$ oz)	
STEERING SYSTEM	Type	P/S M/S	Power assisted, rack and pinion Rack and pinion	
	Overall Ratio	VTi P/S Except VTi P/S M/S	LHD: 17.5 RHD: 16.5 LHD: 17.5 RHD: 17.0 LHD: 19.0 RHD: 19.0	
	Turns, Lock-to-lock	VTi P/S Except VTi P/S M/S	LHD: 3.3 RHD: 3.1 LHD: 3.6 RHD: 3.5 LHD: 3.9 RHD: 3.9	
	Steering Wheel Diameter	Except VTi and VTi VEi VTi	375 mm (14.8 in) 380 mm (15.0 in) 377 mm (14.8 in)	
SUSPENSION	Type Shock Absorber	Front and Rear Front and Rear	Independent double wishbone, coil spring Telescopic, hydraulic nitrogen gas-filled	
WHEEL ALIGNMENT	Camber Front	VTi 2WD except VTi 4WD	 −0°05′ 0°00′ 0°15′	
	Rear	VTi 2WD except VTi 4WD	 −0°25′ −0°20′ −0°25′	
	Caster Front	 2WD 4WD	 1°10′ 1°05′	
	Toe Front Rear	 4WD with ABS	 0 mm (0 in) In 2.0 mm (0.08 in) 0 mm (0 in)	
BRAKE SYSTEM	Type	Front Rear	Power-assisted self-adjusting ventilated disc Power-assisted self-adjusting solid disc or drum	
	Pad and Lining Surface Area	Front Rear Type	 35.8 cm² x 2 (5.5 sq-in x 2) 43.2 cm² x 2 (6.7 sq-in x 2) 51.5 cm² x 2 (8.0 sq-in x 2) 21.0 cm² x 2 (3.26 sq-in x 2) 50.2 cm² x 2 (7.8 sq-in x 2) 67.2 cm² x 2 (10.4 sq-in x 2) Mechanical actuating, rear two wheel brakes	Unit: mm (in) Disc dia, 190 (7.5) Disc dia, 191 (7.5) Disc dia, 211 (8.3) Disc dia, 208 (8.2) Drum I.D. 180 (7.1) Drum I.D. 200 (7.9)
TIRE	Size and Pressure		See tire information label (see page 1-15)	

	ITEM	METRIC (ENGLISH)	NOTES
ELECTRICAL	Battery	12 V−47 AH, 36 AH, 38 AH/5 HR	
	Starter	12 V−0.8 kW, 12 V−1.0kW, 12 V−1.2 kW 12 V−1.4 kW	
	Alternator	12 V−70 A, 80 A	
	Fuses		
	In the Uuder-dash Fuse Box	7.5 A, 10 A, 15 A, 20 A, 30 A	
	In the Under-hood Fuse/Relay Box	7.5 A, 10 A, 15 A, 20 A, 30 A, 40 A, 50 A, 80 A	
	In the Under-hood ABS Fuse/ Relay Box	7.5 A, 15 A, 20 A, 50 A	
	Headlights High/Low	12 V−60/55 W	
	Front Turn Signal Lights	12 V−21 W 12 V−43/3 CP	KY model
	Front position Lights	12 V−5 W	
	Side Turn Signal Lights	12 V−5 W	
	Rear Turn Signal Lights	12 V−21 W	
	Brake/Taillights	12 V−21/5 W	
	High Mount Brake Light 3-door	12 V−21 CP	KQ and KY models
	4-door	12 V−32 CP	KB model
		12 V−21 W	KQ and KY models
	Back-up Lights	12 V−21 W	
	License Plate Lights	12 V−5 W 12 V−8 W	KB model
	Ceiling Lights	12 V−5 W	
	Trunk/Luggage Area Lights	12 V−3.4 W	
	Gauge Lights	12 V−3.0 W	
	Indicator Lights	12 V−1.2 W, 1.4 W, 0.84 W	
	Illumination and Pilot Lights	12 V−1.4 W, 1.12 W, 0.84 W 12 V−0.91 W, 0.56 W, LED	
	Heater Illumination Lights	12 V−1.4 W	
	Rear Fog Light	12 V−21 W	European, KB and KP models

Body Specifications

2-door Hatchback:

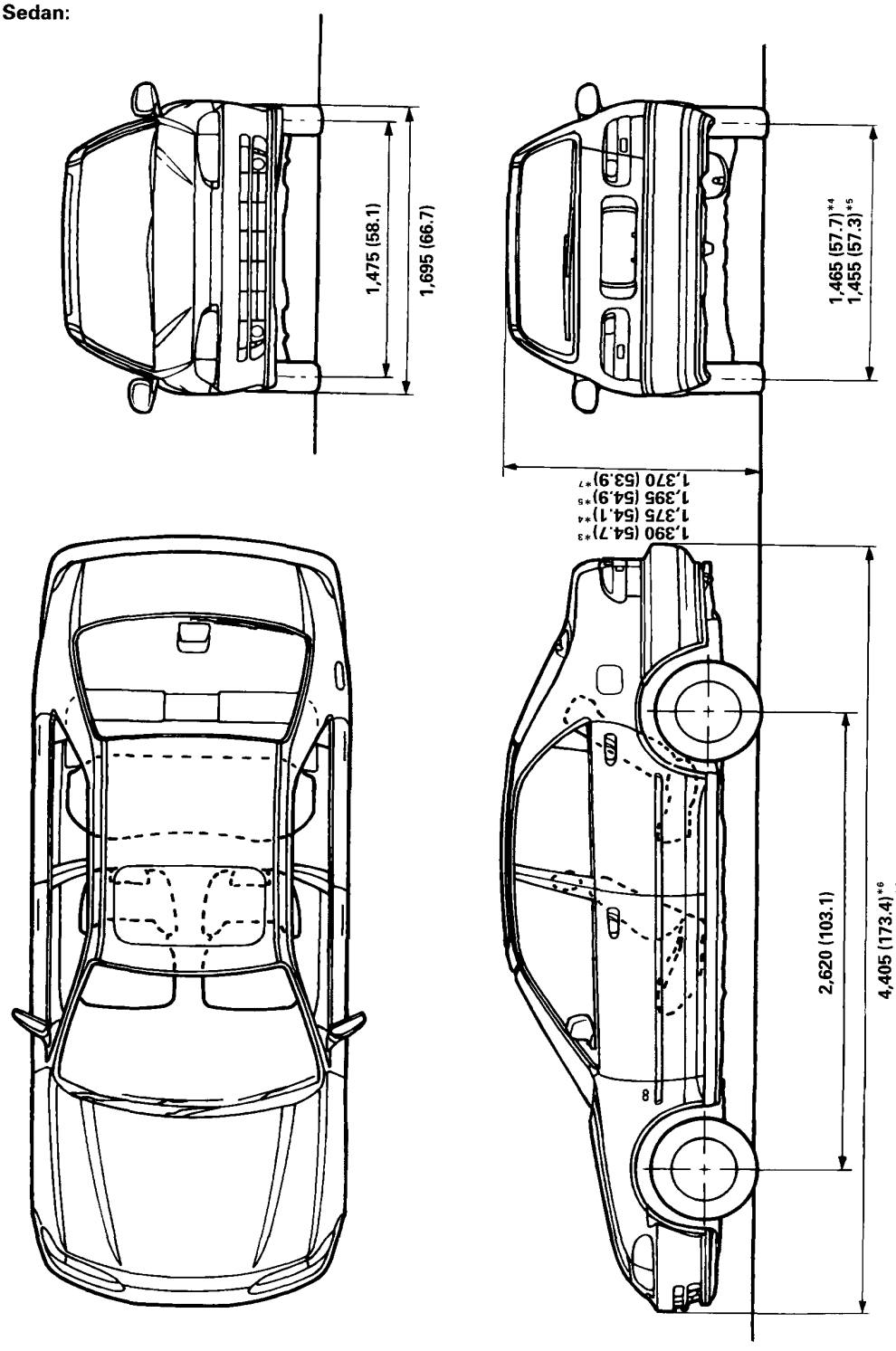
Unit: mm (in)



*1 Finland only, *2 KQ, KM, *3 KY, *4 Except KQ, KY, KM, *5 KM

4-door Sedan:

Unit: mm (in)



*1 KQ, KM
*2 Finland only
*3 KY
*4 2WD
*5 4WD
*6 Except KQ, KY, KM
*7 KM

Maintenance

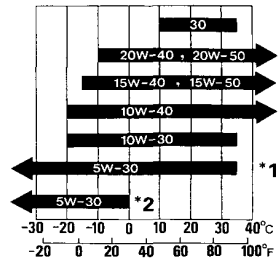
Lubrication Points 4-2
Maintenance Schedule 4-4

Lubrication Points

For the details of lubrication points and types of lubricants to be applied, refer to the Illustrated Index and various work procedures (such as Assembly/Reassembly, Replacement, Overhaul, Installation, etc.) contained in each section.

No.	LUBRICATION POINTS		LUBRICANT
1	Engine		API Service Grade: SF, SG or SH fuel efficient oil SAE Viscosity: See chart below
2	Transmission	Manual	API Service Grade: SF or SG SAE Viscosity: 10 W−30 or 10 W−40
		Automatic	Honda Premium Formula or DEXRON® II Automatic transmission fluid (ATF)
3	Brake Line		Brake fluid DOT3 or DOT4
4	Clutch Line		Brake fluid DOT3 or DOT4
5	Power steering gearbox		Steering grease P/N 08733−B070E
6	Shift lever pivots (Manual transmission)		Grease with molybdenum disulfide
7	Release fork (Manual transmission)		Urea Grease UM264 P/N 41211−PY5−305
8 9 10 11 12 13 14 15 16 17 18 19 20 21	Steering boots Tailgate hinges and latches (2-door Hatchback) Steering ball joints Select lever (Automatic transmission) Pedal linkage Brake master cylinder pushrod Trunk hinges and latch (4-door Sedan) Door hinges upper and lower Door opening detents Fuel filler lid Engine hood hinges and engine hood latch Clutch master cylinder pushrod Throttle cable end Rear brake shoe linkages		Multi-purpose grease
22	Caliper Piston seal, Dust seal, Caliper pin, Piston		Silicone grease
23	Power steering system (For cars with P/S)		Honda power steering fluid-V
24	Rear differential (4WD only)		Honda Premium Formula or DEXRON® II Automatic transmission fluid (ATF)
25	Air conditioning compressor		Compressor oil: NIPPONDENSO: ND-OIL8 P/N 38899−PR7−003 MATSUSHITA: GU10 P/N 38899−P08−003 HADSYS: SP-10 P/N 38899−P13−003 (For Refrigerant: HFC-134a (R-134a)

Recommended Engine Oil
API Service Grade: SF, SG or SH fuel efficient oil.
Select the oil for the car according to this chart.

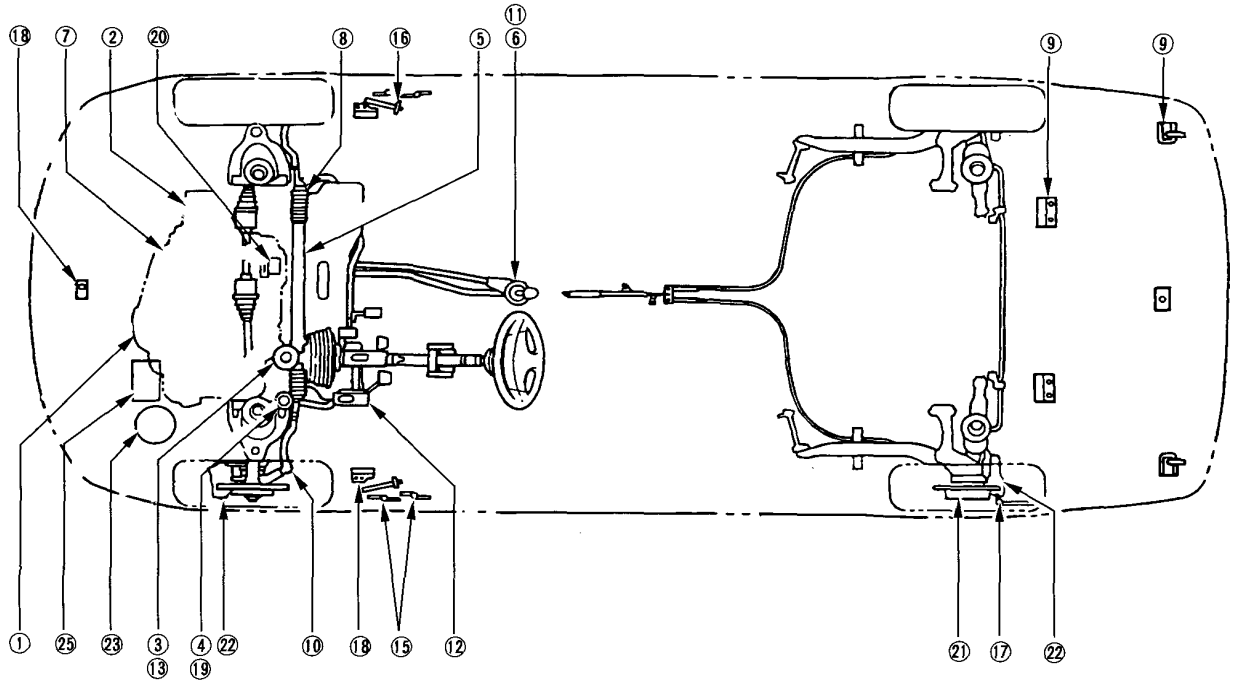


Ambient temperature ranges

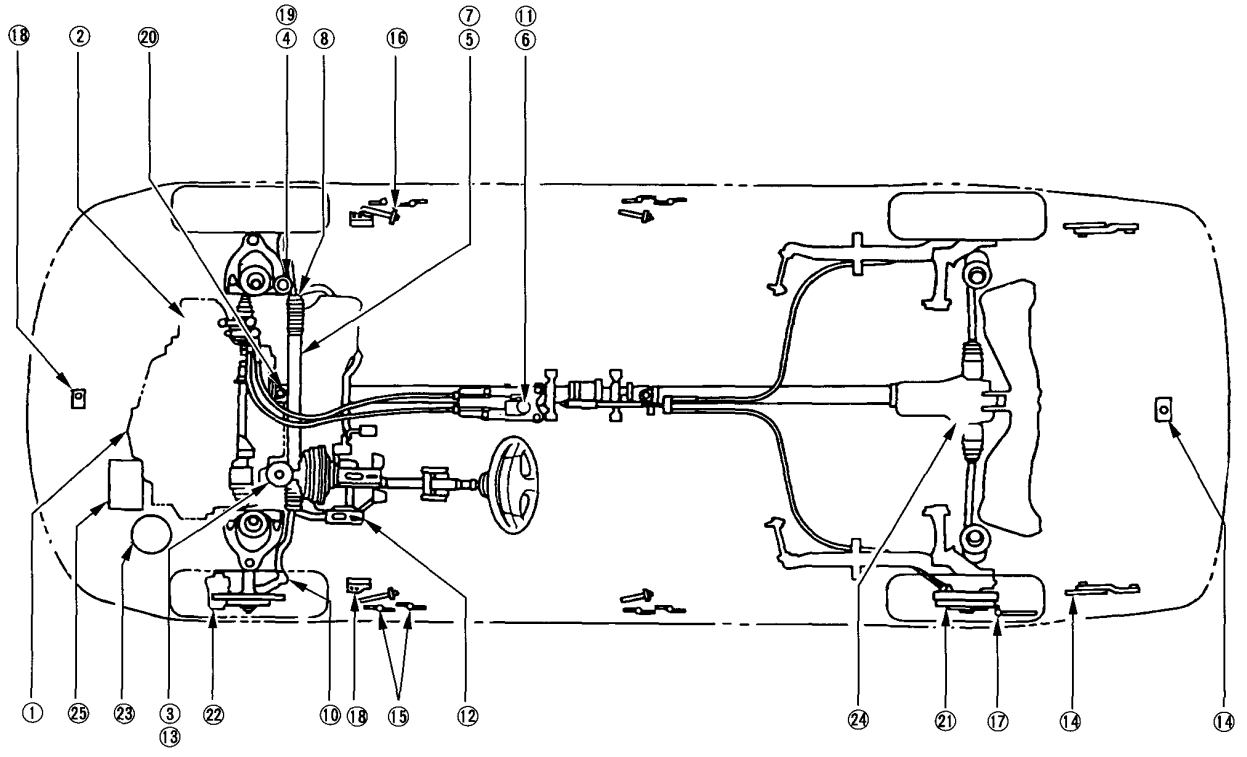
*1: Except B16A2, B16A3, D16A9 engines
*2: B16A2, B16A3, D16A9 engines

CAUTION:
Used engine oil may causes skin cancer if repeatedly left in contact with the skin for prolonged periods. Although this is unlikely unless you handle used oil on a daily basis, it is still advisable to thoroughly wash your hands with soap and water as soon as possible after handling used oil.

2-door Hatchback:



4-door Sedan and 4WD:



Maintenance Schedule

R=Replace C=Clean I=Inspect: After inspection, clean, adjust, fill up, repair or replace if necessary.

Service at the interval listed x 1,000 km (or miles) or after that number of months, whichever comes first.		x 1,000 km	20	40	60	80	100	120	140	160	180	200
		x 1,000 miles	12	24	36	48	60	72	84	96	108	120
		months	12	24	36	48	60	72	84	96	108	120
● Engine oil and oil filter	For European models		Replace every 10,000 km (6,000 miles) or 12 months									
	For Other than European models		Replace every 10,000 km (6,000 miles) or 6 months									
● Transmission oil	For European models				R			R			R	
	For Other than European models			R		R		R		R		R
Valve clearance	For European models			I		I		I		I		I
	For Other than European models		I	I	I	I	I	I	I	I	I	I
Belt tension and conditions (Alternator, Power steering*1, A/C compressor*2)				I		I		I		I		I
Timing belt							R					R
Water pump							I					I
Cooling system hoses and connections				I		I		I		I		I
● Engine coolant						R		R		R		R
Spark plug	For Pt-tipped type (Brazil type only)						R*3					R*3
	Except for Pt-tipped type	For cars with catalytic converter		R		R		R		R		R
			For KS model, replace every 48,000 km									
		For cars without catalytic converter	R	R	R	R	R	R	R	R	R	R
Ignition timing and control system (For carburetor types)	For European models					I						I
	For Other than European models			I		I		I		I		I
Air cleaner element	For cars with catalytic converter			R		R		R		R		R
	For cars without catalytic converter		R	R	R	R	R	R	R	R	R	R
Tank, fuel lines and connections				I		I		I		I		I
Fuel filter				R		R		R		R		R
Positive crankcase ventilation valve							I*5					I*5
Throttle control system and choke opener operation (For carburetor types)	For European models						I					I
	For Other than European models			I		I		I		I		I

- Day to day care (engine oil, ATF and coolant level) should be done practically according to the owner's manual by the customer.

*1: For cars with Power steering system
*2: For cars with Air conditioning system
*3: Replace every 6 years or 100,000 km (60,000 miles), whichever comes first.
*4: For KS models, recommended by manufacturer only: except for KS models, it is required.
*5: For KS models, monthly interval is recommended by manufacturer only: except for KS models, it is required.

R=Replace C=Clean I=Inspect: After inspection, clean, adjust, fill up, repair or replace if necessary.

Service at the interval listed x 1,000 km (or miles) or after that number of months, whichever comes first.											
	x 1,000 km	20	40	60	80	100	120	140	160	180	200
	x 1,000 miles	12	24	36	48	60	72	84	96	108	120
	months	12	24	36	48	60	72	84	96	108	120
Choke mechanism (For carburetor types)	For European models			C*4		I		I		I	
	For Other than European models		I		I		I		I		I
Intake air temperature control system (For carburetor types)						I					I
Blow-by filter (For carburetor types)			I		I		I		I		I
Idle speed and idle CO		I*4	I*4	I*4	I*4	I*5	I*4	I*4	I*4	I*4	I*5
Evaporative emission control system (For Other than European models)						I					I
Distributor cap and rotor (For Other than European models)			I		I		I		I		I
Ignition wiring (For Other than European models)			I		I		I		I		I
Front brake pads		Inspect every 10,000 km (6,000 miles) or 12 months									
Front brake discs and calipers		I	I	I	I	I	I	I	I	I	I
Rear brake discs, calipers and pads			I		I		I		I		I
Rear brake drums, wheel cylinders and linings			I		I		I		I		I
Parking brake operation		I	I		I		I		I		I
Brake fluid (Including ABS*6)			R		R		R		R		R
Brake hoses and lines		I	I	I	I	I	I	I	I	I	I
Anti-lock brake system operation*6		I	I		I		I		I		I
Anti-lock brake system high pressure hose*6					R				R		
Exhaust system and condition		I	I	I	I	I	I	I	I	I	I
Catalytic converter heat shield (For cars with catalytic converter)						I					I
Suspension components		I	I	I	I	I	I	I	I	I	I
Steering function, tie-rod ends, gearbox and boots		I	I		I		I		I		I
Power steering function, hoses and connections*1		I	I	I	I	I	I	I	I	I	I
All fluid levels		Inspect every 10,000 km (6,000 miles) or 12 months									

*1 : For cars with Power steering system
*4 : For KS models, recommended by manufacturer only: except for KS model, it is required.
*5 : For KS models, monthly interval is recommended by manufacturer only: except for KS models, it is required.
*6 : For cars with anti-lock brake system

Maintenance Schedule

R=Replace C=Clean I=Inspect: After inspection, clean, adjust, fill up, repair or replace if necessary.

Service at the interval listed x 1,000 km (or miles) or after that number of months, whichever comes first.										
	x 1,000 km	20	40	60	80	100	120	140	160	180	200
	x 1,000 miles	12	24	36	48	60	72	84	96	108	120
	months	12	24	36	48	60	72	84	96	108	120
Battery condition		I	I	I	I	I	I	I	I	I	I
Rear differential oil (4WD model)			R		R		R		R		R
Tires condition, wear and pressure (Including spare)		Inspect every 10,000 km (6,000 miles) or 12 months									
Lights operation and headlight beam		Inspect every 10,000 km (6,000 miles) or 12 months									
Paint damages and body work		I	I	I	I	I	I	I	I	I	I
Test drive (Noise, stability, dashboard operations)		I	I	I	I	I	I	I	I	I	I
Cleanliness of controls, door handles, etc.		Inspect after every service									
Supplemental Restraint System*7		Inspect system and replace slip ring*8 10 years first registration									

*7: For cars with SRS
*8: Except for cars with passenger airbag

Severe Driving Conditions
The following items must be serviced more frequently on cars normally used under severe driving conditions. Refer to the chart below for the appropriate maintenance intervals.

Severe driving conditions include:
A: Repeated short distance driving.
B: Driving in dusty conditions.
C: Driving in severe cold weather.
D: Driving in areas using road salt or other corrosive materials.
E: Driving in rough and/or muddy roads.
F: Towing a trailer.

R=Replace I=Inspect After inspection, clean, adjust, fill up, repair or replace if necessary.

Condition	Maintenance Item		Operation	Interval
A B · · · F	Engine oil and oil filter	For European models	R	Every 5,000 km (3,000 miles) or 6 months
		For Other than European models	R	Every 5,000 km (3,000 miles) or 3 months
· · · · · F	Transmission oil		R	Every 20,000 km (12,000 miles) or 12 months
· B · · E ·	Air cleaner element	For cars with catalytic converter	R	Every 20,000 km (12,000 miles) or 12 months
		For cars without catalytic converter	R	Every 10,000 km (6,000 miles) or 6 months
A B · D E F	Front brake discs and calipers		I	Every 10,000 km (6,000 miles) or 6 months
A B · D E F	Rear brake discs, calipers and pads		I	Every 20,000 km (12,000 miles) or 12 months
· B C · E ·	Power steering system		I	Every 10,000 km (6,000 miles) or 6 months

Engine

NOTE:
The B16A3 engine has been adopted. For the service procedures, refer to the procedures for B16A2 engine.
Refer to Shop Manual 62SR300A, 62SR320 and 62SR321 for the items not shown in this section.

Outline of Model Changes

- B16A3 engine has been adopted.

Fuel and Emissions

Carbureted Engine 11-1
Fuel-Injected Engine.....11-3

Fuel and Emissions (Carbureted Engine)

Carburetor

Idle Speed/Mixture (D13B2 engine) 11-2

Outline of Model Changes

- Idle speed has been changed for D13B2 engine.
- The front fuel filter has been deleted for all models.

Carburetor

Idle Speed/Mixture (D13B2 engine)

⚠WARNING

Do not smoke during this procedure. Keep any open flame away from your work area.

NOTE:
Check that the self-diagnosis indicator before making idle speed and mixture inspections

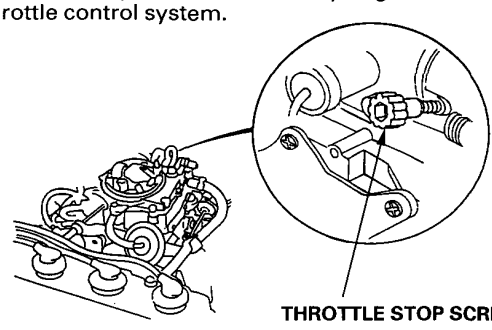
1. Start the engine and warm it up to normal operating temperature (the cooling fan comes twice).
2. Connect a tachometer.
3. Turn the ignition switch OFF. Restart the engine and hold engine at idle for two minutes. And hold engine at 3,000−3,500 rpm (min^{-1}) for one minute. Check idle speed with the headlights, heater blower, rear window defogger, cooling fan and air conditioner off.

   Idle speed should be:

   900 ± 50 rpm (min^{-1})

   Adjust the idle speed, if necessary, by turning the throttle stop screw.

   NOTE:
   If the idle speed is excessively high, check the throttle control system.



THROTTLE STOP SCREW

4. Turn the ignition switch OFF. Restart the engine and hold engine at idle for two minutes. And hold engine at 3,000−3,500 rpm (min^{-1}) for one minute. Check specification for idle CO with headlights, heater blower, rear window defogger, cooling fan and air conditioner off.

   Specified CO %: below 0.2 %

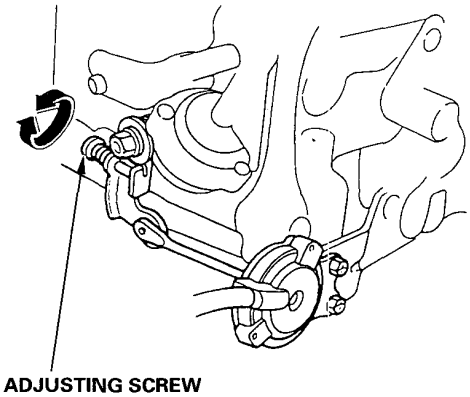
   - If idle CO is as specified, go to step 5.
   - If not, refer to base Shop Manual (P/N: 62SR300A 11-107), adjust the idle CO.

5. If equipped with air conditioner, check the idle speed with the A/C on.

   Idle speed should be:

   900 ± 50 rpm (min^{-1})

   Adjust the idle speed, if necessary, by turning the adjusting screw



ADJUSTING SCREW

Fuel and Emissions (Fuel-Injected Engine)

Component Locations
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Vacuum Connections (B16A3 engine) 11-5
Electrical Connections (B16A3 engine) 11-6

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Self-diagnostic Procedures (B16A3 engine) 11-8

PGM-FI System
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Idle Control System
Idle Speed Setting (KM model) 11-11

Fuel Supply System
Fuel Lines 11-12
Fuel Tube/Quick-Connect Fittings
(except D15B7/D16Z6 engines of KM/KH models) 11-13
Fuel Filter 11-16

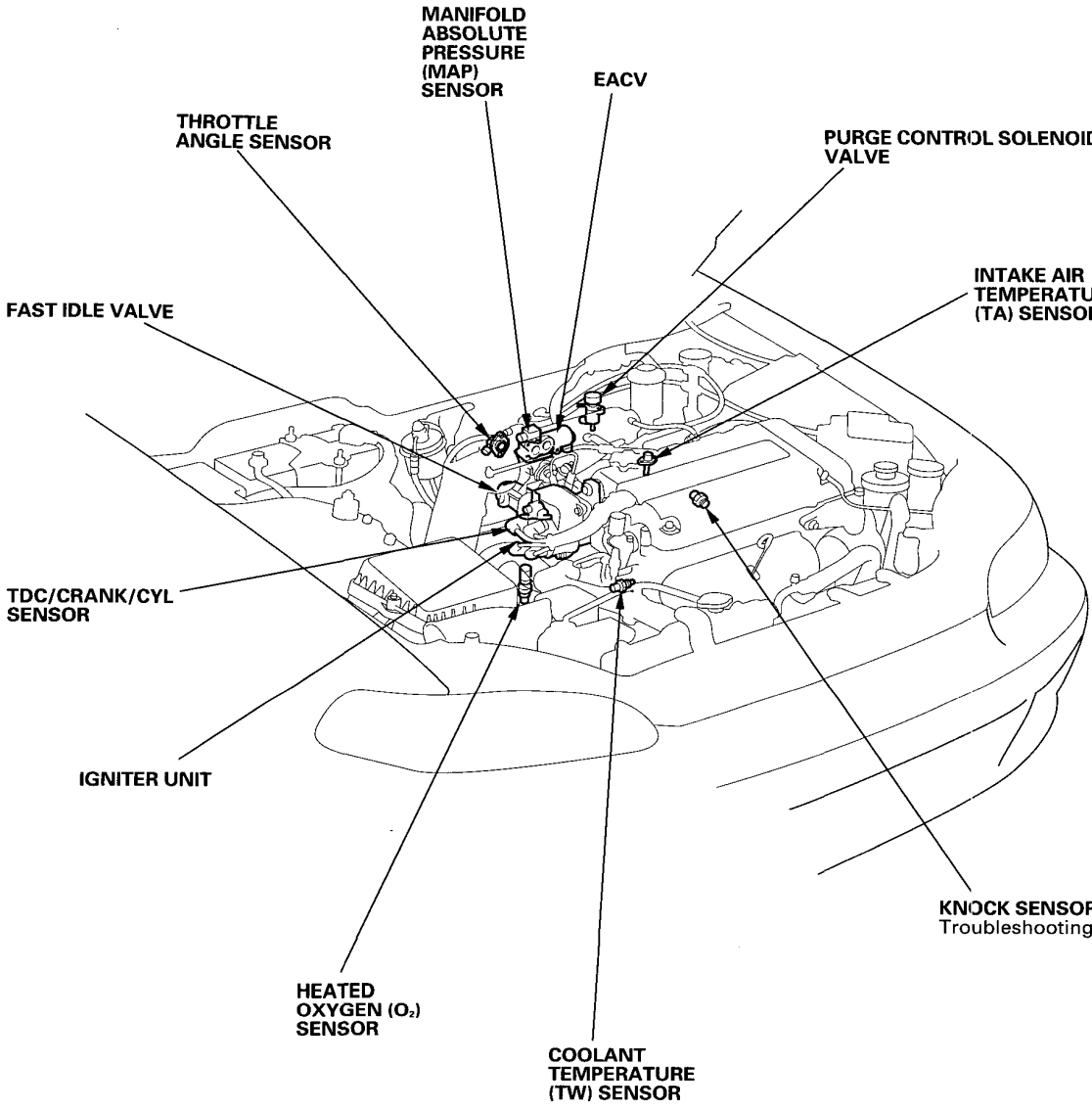
Emission Control System
System Description (KM model) 11-16
Tailpipe Emission (KM model) 11-16

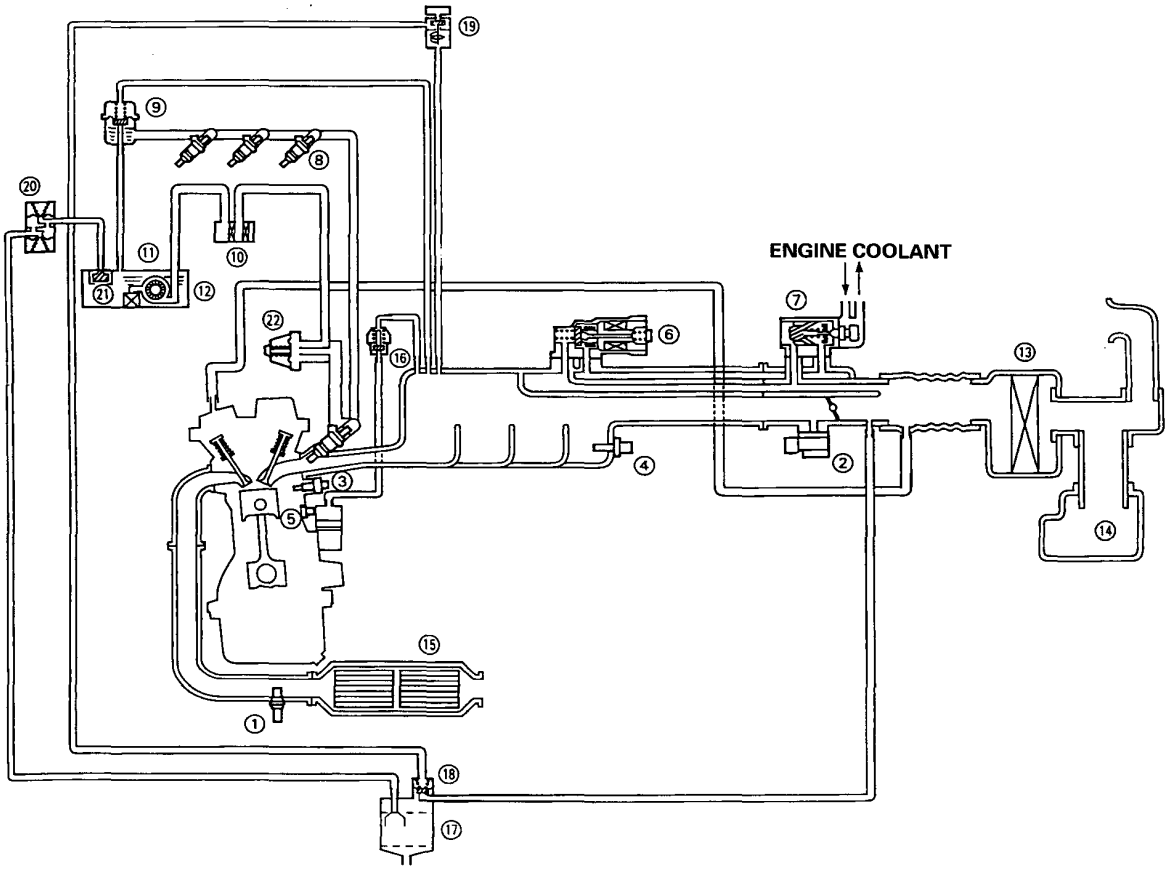
Outline of Model Changes

- B16A3 engine has been added, refer to base Shop Manuals B16A2 engine (P/N: 62SR300A, 62SR320, 62SR321, 62SR322) and changed following:
  - Knock Sensor
- Idle Speed has been changed for KM model.
- Fuel Tube/Quick-Connect Fittings has been added (except D15B7/D16Z6 engines of KM/KH models).
- Fuel filter configuration has been changed for all models.
- Emission Control System has been changed for KM model.

Component Locations

Index (B16A3 engine)

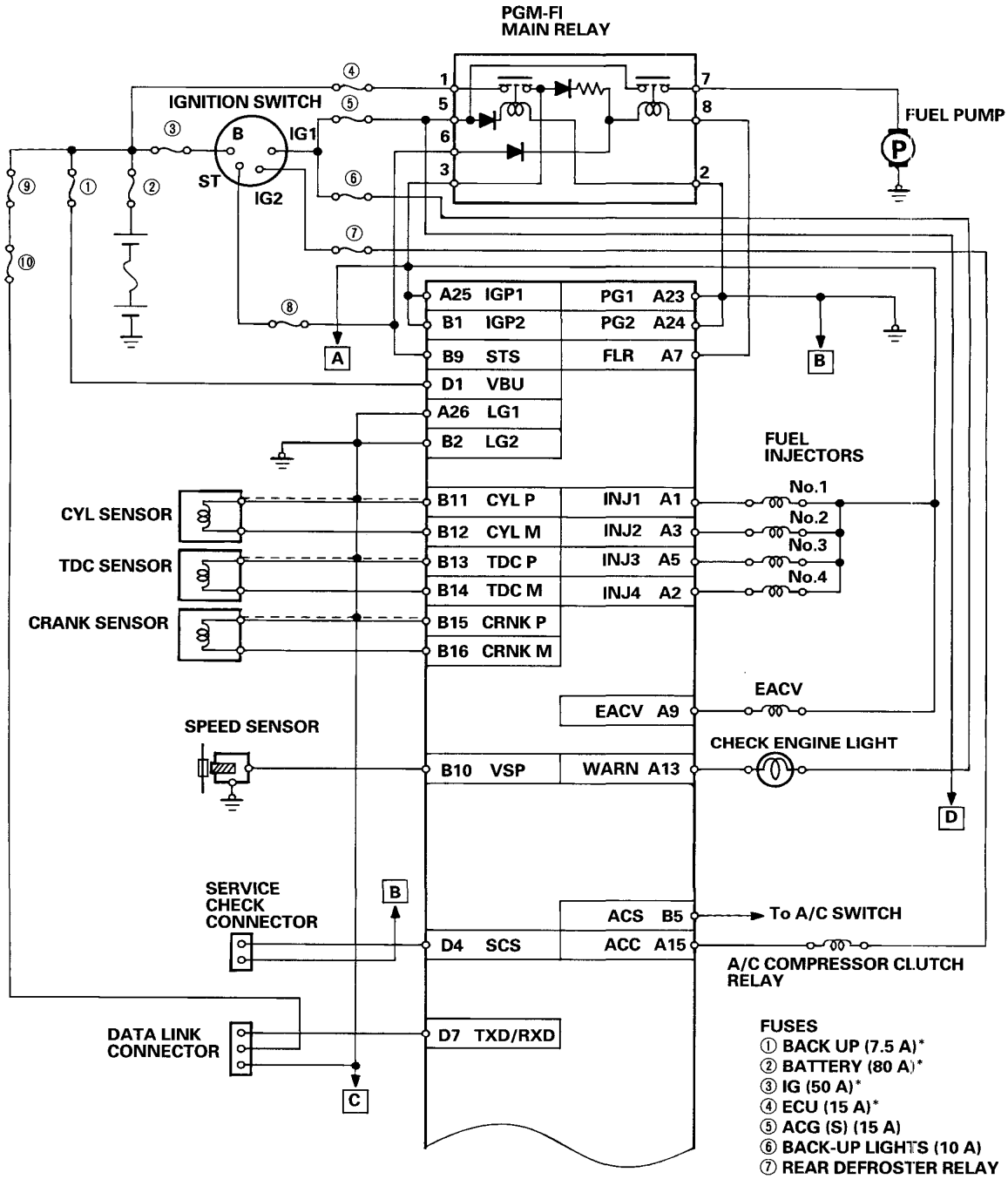




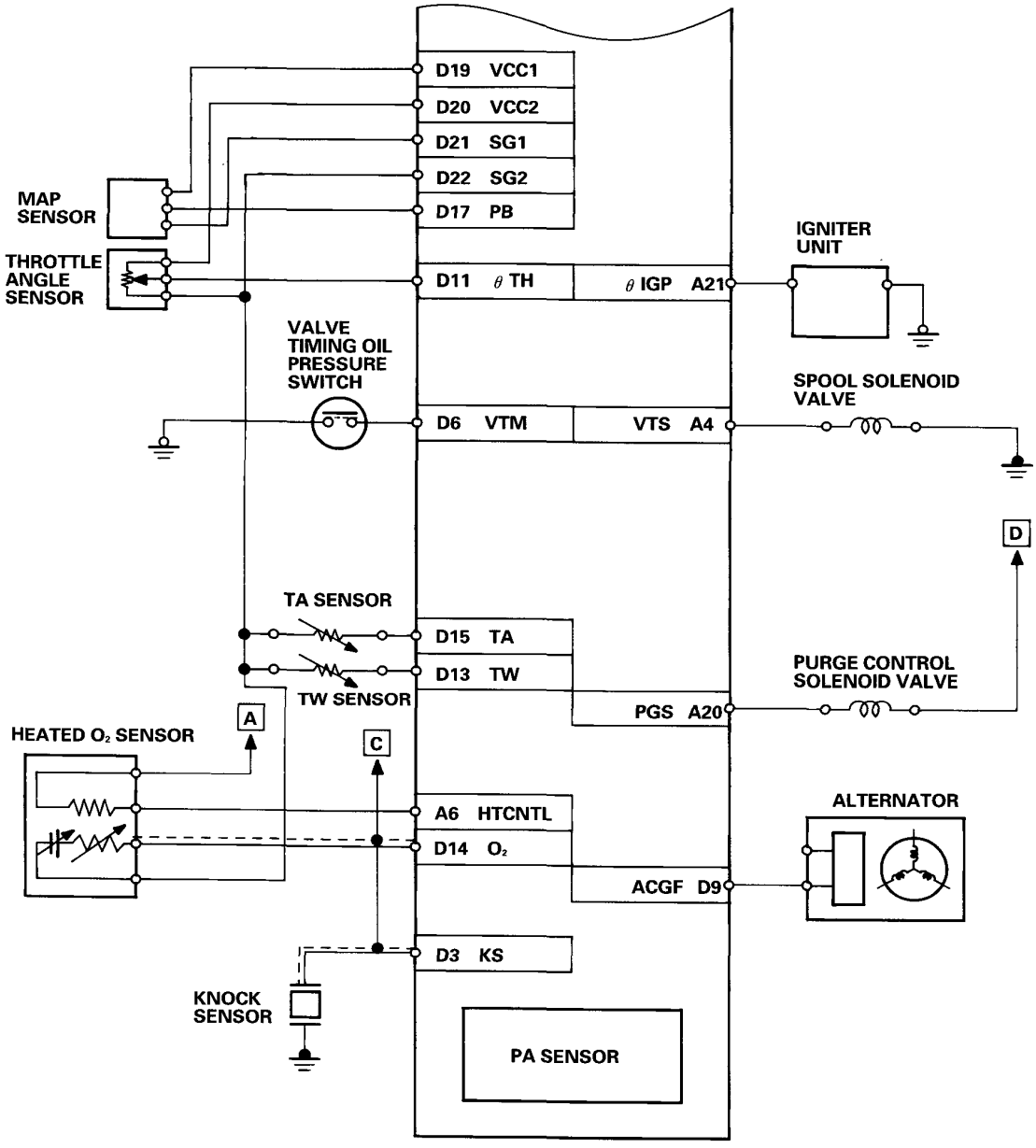
① OXYGEN (O_2) SENSOR
② MANIFOLD ABSOLUTE PRESSURE (MAP) SENSOR
③ COOLANT TEMPERATURE (TW) SENSOR
④ INTAKE AIR TEMPERATURE (TA) SENSOR
⑤ KNOCK SENSOR
⑥ FAST IDLE VALVE
⑦ ELECTRONIC AIR CONTROL VALVE (EACV)
⑧ FUEL INJECTOR
⑨ PRESSURE REGULATOR
⑩ FUEL FILTER
⑪ FUEL PUMP
⑫ FUEL TANK
⑬ AIR CLEANER
⑭ RESONATOR
⑮ CATALYTIC CONVERTER
⑯ PCV VALVE
⑰ CHARCOAL CANISTER
⑱ PURGE CONTROL DIAPHRAGM VALVE
⑲ PURGE CONTROL SOLENOID VALVE
⑳ TWO-WAY VALVE
㉑ FUEL CUT VALVE

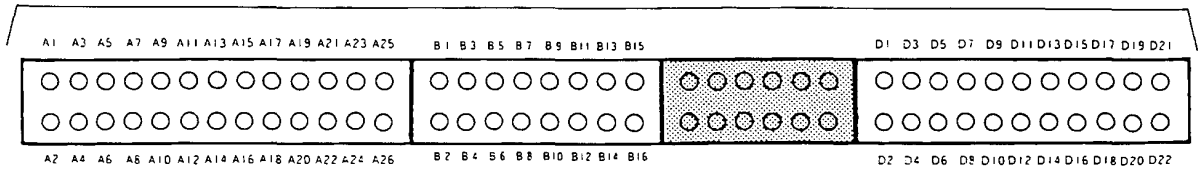
System Description

Electrical Connections (B16A3 engine)



FUSES
① BACK UP (7.5 A)*
② BATTERY (80 A)*
③ IG (50 A)*
④ ECU (15 A)*
⑤ ACG (S) (15 A)
⑥ BACK-UP LIGHTS (10 A)
⑦ REAR DEFROSTER RELAY
HEATER MOTOR RELAY
COOLING FAN MOTOR RELAY (7.5 A)
⑧ STARTER SIGNAL (7.5 A)
⑨ OPTION (50 A)*
⑩ INTERIOR LIGHT (7.5 A)
*: UNDER-HOOD FUSE/RELAY BOX





TERMINAL LOCATION

Troubleshooting

Self-diagnostic Procedures (B16A3 engine)

When the Check Engine Light has been reported on, refer to base Shop Manuals (P/N: 62SR300, 62SR320, 62SR321, 62SR322) and check the code.

SELF-DIAGNOSIS INDICATOR BLINKS	SYSTEM INDICATED	PAGE
0	ECU	—
1	OXYGEN SENSOR	—
3	MANIFOLD ABSOLUTE PRESSURE (MAP) SENSOR	—
5		—
4	CRANK SENSOR	—
6	TW SENSOR	—
7	THROTTLE SENSOR	—
8	TDC SENSOR	—
9	CYL SENSOR	—
10	TA SENSOR	—
13	PA SENSOR	—
14	EACV	—
15	IGNITER UNIT	—
16	FUEL INJECTOR	—
17	VEHICLE SPEED SENSOR	—
21	SPOOL SOLENOID VALVE	—
22	VALVE TIMING OIL PRESSURE SWITCH	—
23	KNOCK SENSOR	11-9
41	OXYGEN SENSOR HEATER	—
43	FUEL SUPPLY SYSTEM	—

- For reference pages not listed with the respective Self-Diagnosis Indicator Blinks, refer to base Shop Manuals.
- If codes other than those listed above are indicated, verify the code. If the code indicated is not listed above, replace the ECU.
- The Check Engine Light may come on, indicating a system problem when, in fact, there is a poor or intermittent electrical connection. First, check the electrical connections, clean or repair connections if necessary.

Knock Sensor (B16A3 engine)

23 Self-diagnosis Check Engine light indicates code 23: A problem in the Knock Sensor circuit.

- **The Check Engine Light has been reported on.**
- **With the SCS short connector connected, code 23 is indicated.**

Do the ECU Reset Procedure.

Start the engine. Hold the engine at 3,000 rpm (min^{-1}) with no load (M/T in neutral) until the radiator fan comes on, then let it idle.

Hold engine at 3,000 – 4,000 rpm (min^{-1}) for 10 seconds with M/T in neutral.

Is the Check Engine Light on and does it indicate code 23?

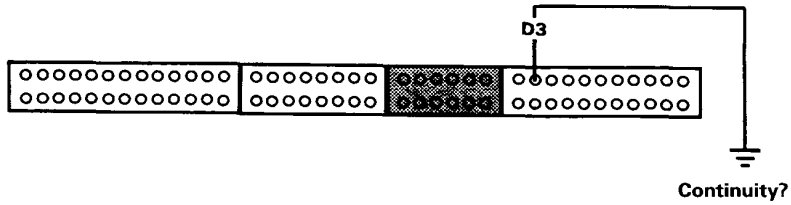
NO → **Intermittent failure, system is OK at this time (test drive may be necessary). Check for poor connections or loose wires between knock sensor and ECU.**

YES

Turn the ignition switch OFF.

Connect the test harness to the engine wire harness only, not to the ECU.

Disconnect the 2P connector from the knock sensor.



Check for continuity between D3 terminal and body ground.

Is there continuity?

YES → **Repair short in RED/BLU wire between ECU (D3) and the knock sensor.**

NO

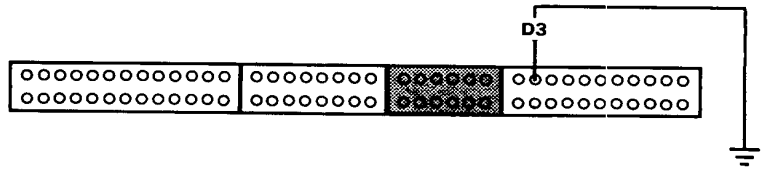
(To page 11-10)

(cont'd)

Knock Sensor (B16A3 engine) (cont'd)

(From page 11-9)

Check for continuity on RED/BLU wire between D3 terminal and 2P connector of engine wire harness.



Is there continuity?

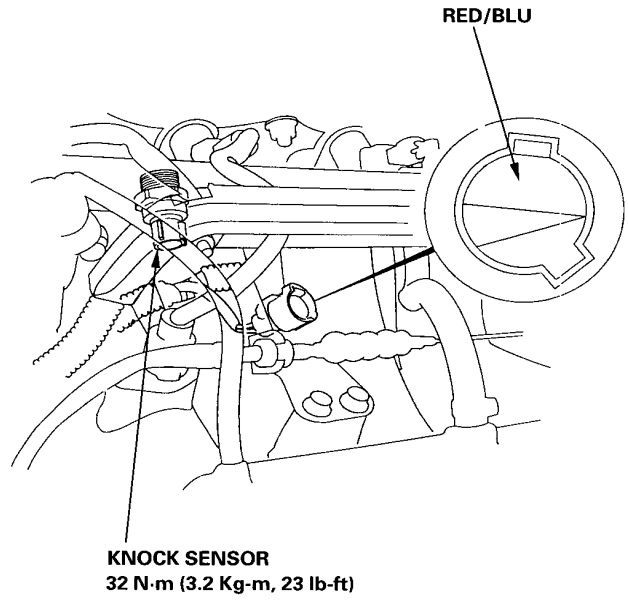
NO — **Repair open in RED/BLU wire between ECU (D3) and the knock sensor.**

YES

Substitute a known-good knock sensor and recheck.

Start the engine. Hold the engine at 3,000 rpm (min^{-1}) with no load (M/T in neutral) until the radiator fan comes on, then let it idle.

Hold engine at 3,000 – 4,000 rpm (min^{-1}) for 10 seconds with M/T in neutral.



Is the Check Engine Light on and does it indicate code 23?

NO — **Replace the original knock sensor.**

YES

Substitute a known-good ECU and recheck. If symptom/ indication goes away, replace the original ECU.

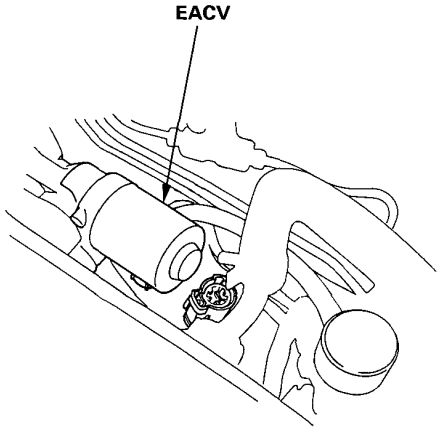
Idle Control System

Idle Speed Setting (KM model)

Inspection/Adjustment

NOTE:
- Before the idle speed setting, check the following items:
  - The Check Engine Light has not been reported on
  - Ignition timing
  - Spark plugs
  - Air cleaner
  - PCV system

1. Connect a tachometer.
2. Start the engine.
   Hold the engine at 3,000 rpm (min^{-1}) with no load (A/T in [N] or [P] position, M/T in neutral) until the radiator fan comes on, then let it idle.
3. Disconnect the 2P connector from the EACV.



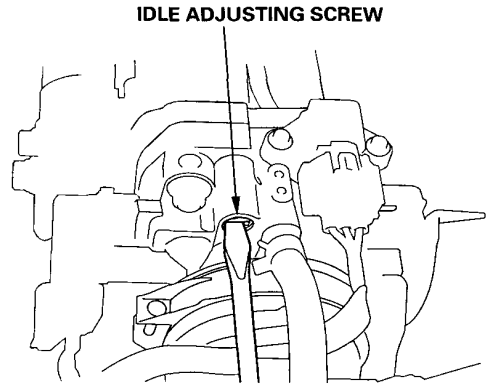
4. Start the engine with the accelerator pedal slightly depressed. Stabilize the engine speed at 1,000, then slowly release the pedal until the engine idles.
5. Check idling in no-load conditions: headlights, blower fan, rear defogger, cooling fan, and air conditioner are not operating.

   Idle speed should be:

M/T	420 ±50rpm (min^{-1})
A/T	420 ±50rpm (min^{-1})(in [N] or [P] position)

   Adjust the idle speed, if necessary, by turning the idle adjusting screw.

   NOTE:
   After adjusting the idle speed in this step, recheck the ignition timing.
   If it is out of spec, go back to step 4.



6. Turn the ignition switch OFF.
7. Reconnect the 2P connector on the EACV, then remove BACK UP fuse in the under-hood fuse/relay box for 10 seconds to reset the ECU.
8. Restart and idle the engine with no-load conditions for one minute, then check the idle speed.

   Idle speed should be:

M/T	750 ±50rpm (min^{-1})
A/T	750 ±50rpm (min^{-1})(in [N] or [P] position)

9. Idle the engine for one minute with headlights (Low) ON and check the idle speed.

   Idle speed should be:

M/T	750 ±50rpm (min^{-1})
A/T	750 ±50rpm (min^{-1})(in [N] or [P] position)

10. Turn the headlights off. Idle the engine for one minute with heater fan switch at High and air conditioner on, then check the idle speed.

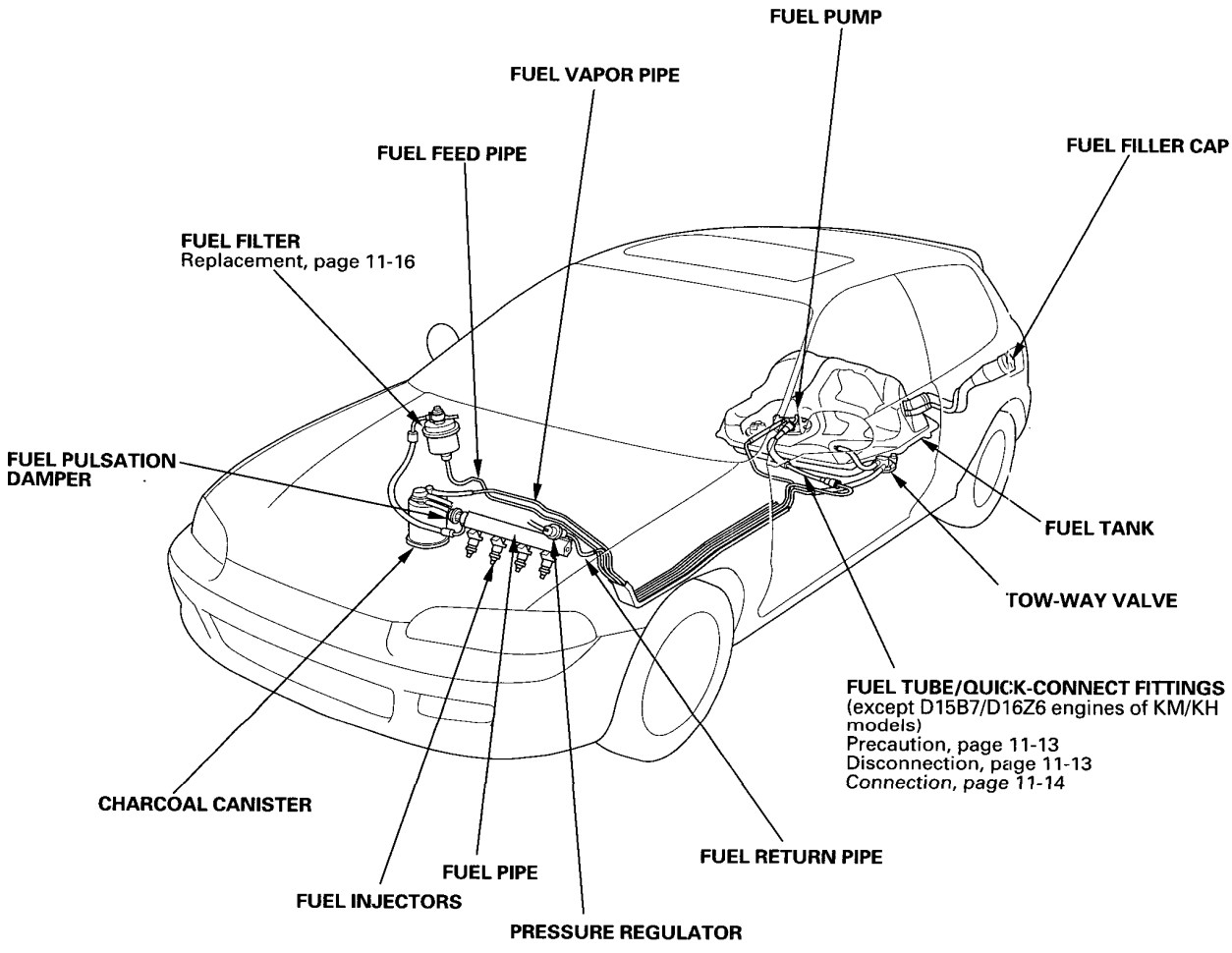
    Idle speed should be:

M/T	810 ±50rpm (min^{-1})
A/T	810 ±50rpm (min^{-1})(in [N] or [P] position)

    NOTE:
    If the idle speed is not within specification, see Idle Control System Troubleshooting Guide.

Fuel Supply System

Fuel Lines



Fuel Tube/Quick-Connect Fittings (except D15B7/D16Z6 engines of KM/KH models)

Precautions

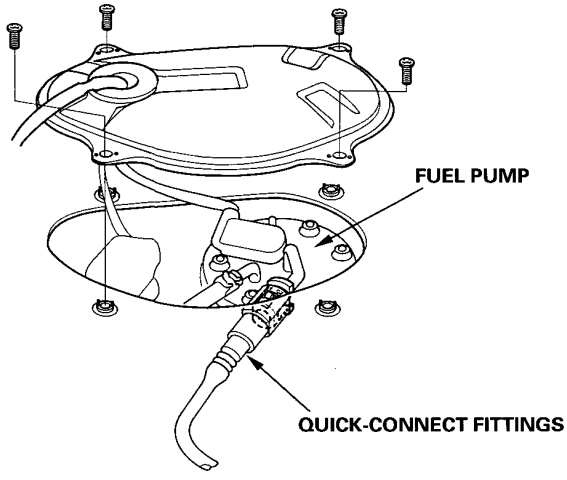
⚠WARNING

Do not smoke while working on fuel system. Keep open flame away from work area.

The fuel tube/quick-connect fittings assembly connects the in-tank fuel pump with the fuel feed pipe. For removing or installing the fuel pump and fuel tank, it is necessary to disconnect or connect the quick-connect fittings. Pay attention to following:

- The fuel tube/quick-connect fittings assembly is not heat-resistant: be careful not to damage it during welding or other heat-generating procedures.
- The fuel tube/quick-connect fittings assembly is not acid-proof: do not touch it with a shop towel which was used for wiping away battery fluid. Replace the fuel tube/quick-connect fittings assembly if it came into contact with battery fluid or similar.
- When connecting or disconnecting the fuel tube/quick-connect fittings assembly, be careful not to bend or twist it excessively. Replace it in case of damage.

A disconnected quick-connect fittings can be reconnected, but the retainer on the mating pipe cannot be reused once it was removed from the pipe. Replace the retainer when
– Replacing the fuel pump.
– Replacing the fuel feed pipe.
– It was removed from the pipe.
– It is damaged.



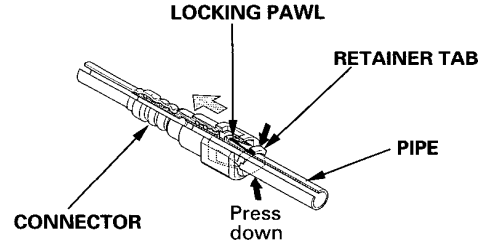
Disconnection

⚠WARNING

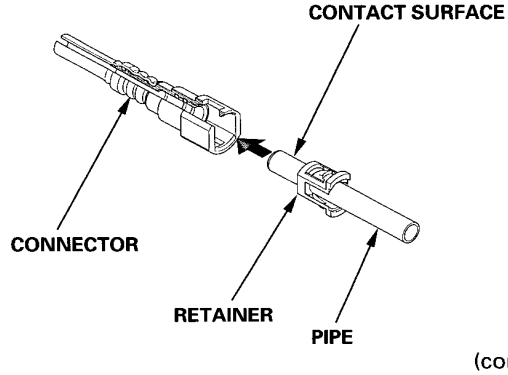
Do not smoke while working on fuel system. Keep open flame away from work area.

1. Disconnect the battery negative cable.
2. Relieve fuel pressure.
3. Remove the fuel fill cap, and relieve fuel pressure in the tank.
4. Check the fuel quick-connect fittings for dirt, and clean if necessary.
5. Holding the connector with one hand and pressing down the retainer tabs with the other, pull the connector off.

   NOTE:
   - Be careful not to damage the pipe or other parts. Do not use tools.
   - If the connector does not move, keep the retainer tabs pressed down, and alternately pull and push the connector until it goes off easily.
   - Do not remove the retainer from the pipe; a removed retainer must ba replaced with a new one.



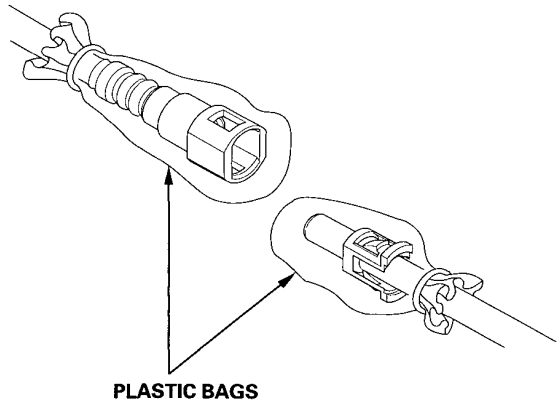
6. Check the contact surface of the pipe for dirt and damage.
   – If the surface is dirty, clean it.
   – If the surface is rusty or damaged, replace the fuel pump or fuel feed pipe.



(cont'd)

Fuel Tube/Quick-Connect Fittings (except D15B7/D16Z6 engines of KM/KH models) (cont'd)

7. To prevent damage and the intrusion of foreign matter, cover the disconnected connector and pipe end with plastic bags or similar.



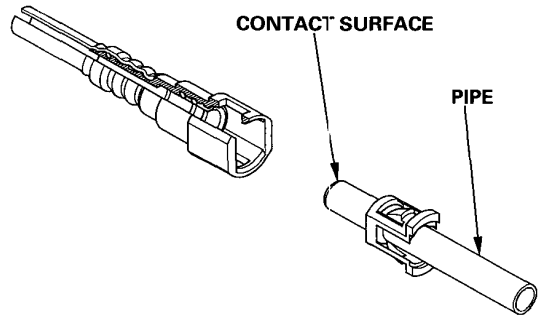
NOTE:
The retainer cannot be reused once it was removed from the pipe. Replace the retainer when
- replacing the fuel pump.
- replacing the fuel feed pipe.
- it was removed from the pipe.
- it is damaged.

Connection

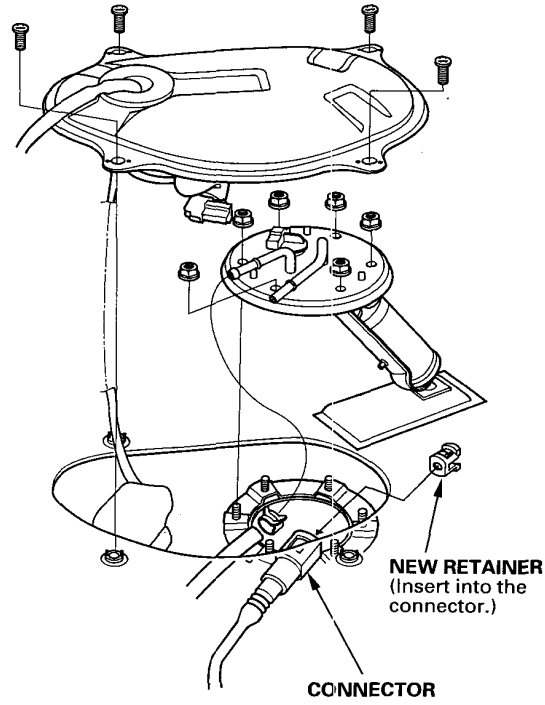
⚠WARNING

Do not smoke while working on fuel system. Keep open flame away from work area.

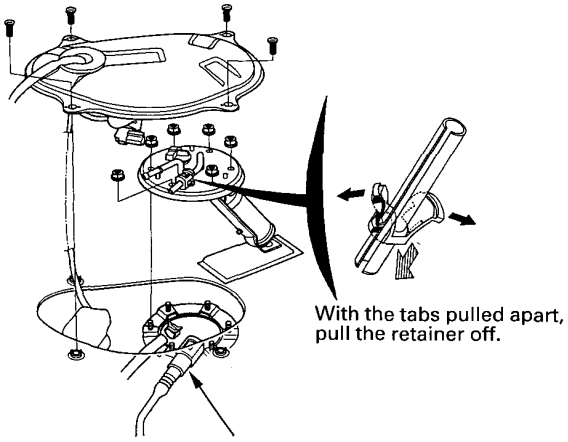
1. Check the pipe end for dirt and damage, and clean if necessary.



2. Insert a new retainer into the connector if the retainer is damaged, or after
   - replacing the fuel pump.
   - replacing the fuel feed pipe.
   - removing the retainer from the pipe.



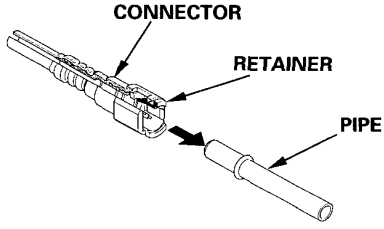
Before connecting a new fuel tube/quick-connect fitting assembly, remove the retainer from the mating pipe.



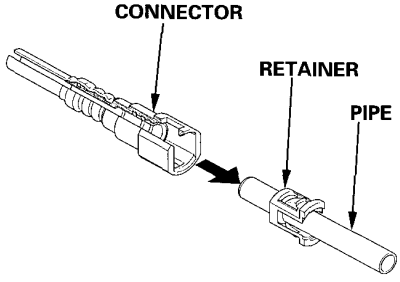
3. Align the quick-connect fitting with the pipe, and align the retainer locking pawls with the connector grooves.
Then press the quick-connect fitting onto the pipe until both retainer pawls lock with a clicking sound.

NOTE:
If it is hard to connect, put a little amount of new engine oil on the pipe end.

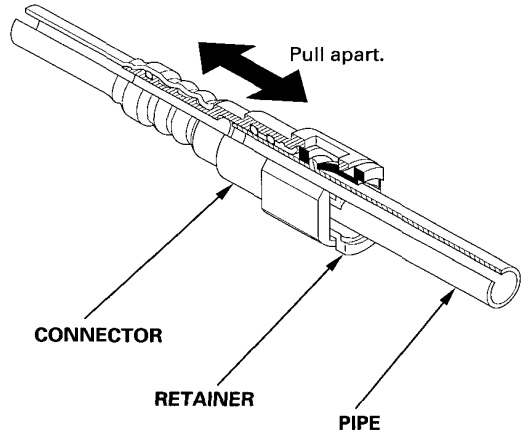
Connection with new retainer.



Reconnection to existing retainer.



4. Check visually and by pulling at the connector that the connection is secure and that the pawls are firmly locked into place.



5. Reconnect the battery negative cable, and turn the ignition switch ON; the fuel pump will work for about two seconds, and fuel pressure will rise. Repeat two or three times, and check that there is no leakage in the fuel supply system.

Fuel Supply System

Fuel Filter

Replacement

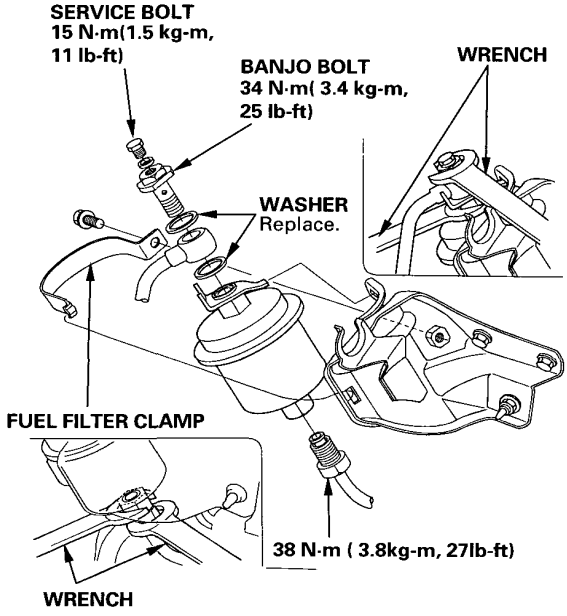
⚠WARNING

- **Do not smoke while working on fuel system. Keep open flame away from your work area.**
- **While replacing the fuel filter, be careful to keep a safe distance between battery terminals and any tools.**

The fuel filter should be replaced every 2 years or 40,000 km (24,000 miles), whichever comes first, or whenever the fuel pressure drops below the specified value [280−330 kPa, 2.8−3.3 kg/cm², 40−47 psi with the fuel pressure regulator vacuum hose disconnected and pinched] after making sure that the fuel pump and the fuel pressure regulator are OK.

1. Disconnect the battery negative cable from the battery negative terminal.
2. Place a shop towel under and around the fuel filter.
3. Relieve fuel pressure.
4. Support the fuel filter with a wrench, as shown, then remove the banjo bolt and the fuel feed pipe from the fuel filter.
5. Remove the fuel filter clamp and filter.
6. When assembling, use new washers, as shown.

   NOTE:
   Clean the flared joint of high pressure hoses thoroughly before reconnecting them.



Emission Control System

System Description (KM model)

The emission control system includes a three-way catalytic converter, crankcase ventilation system and evaporative control system.

Tailpipe Emission

Inspection

⚠WARNING

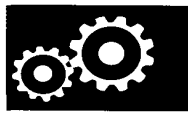
Do not smoke during this procedure. Keep any open flame away from your work area.

1. Connect a tachometer.
2. Start the engine.
   Hold the engine at 3,000 rpm (min⁻¹) with no load (A/T in [N] or [P] position, M/T in neutral) until the radiator fan comes on, then let it idle.
3. Check and adjust the idle speed, if necessary (see page 11-11).
4. Warm up and calibrate the CO meter according to the meter manufacturer's instructions.
5. Check idle CO with the headlights, heater blower, rear window defogger, cooling fan, and air conditioner off.

   CO meter should indicate 0.1 % maximum.

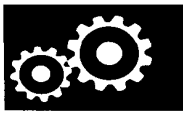
Transaxle

Clutch 12-1
Manual Transmission 13-1
Automatic Transmission 14-1



Clutch

Clutch Pedal
(With Clutch Interlock Switch)
Adjustment 12-2



Outline of Model Change

- The cars with clutch interlock switch are added. Therefore, clutch pedal (with clutch interlock switch) adjustment has been added.

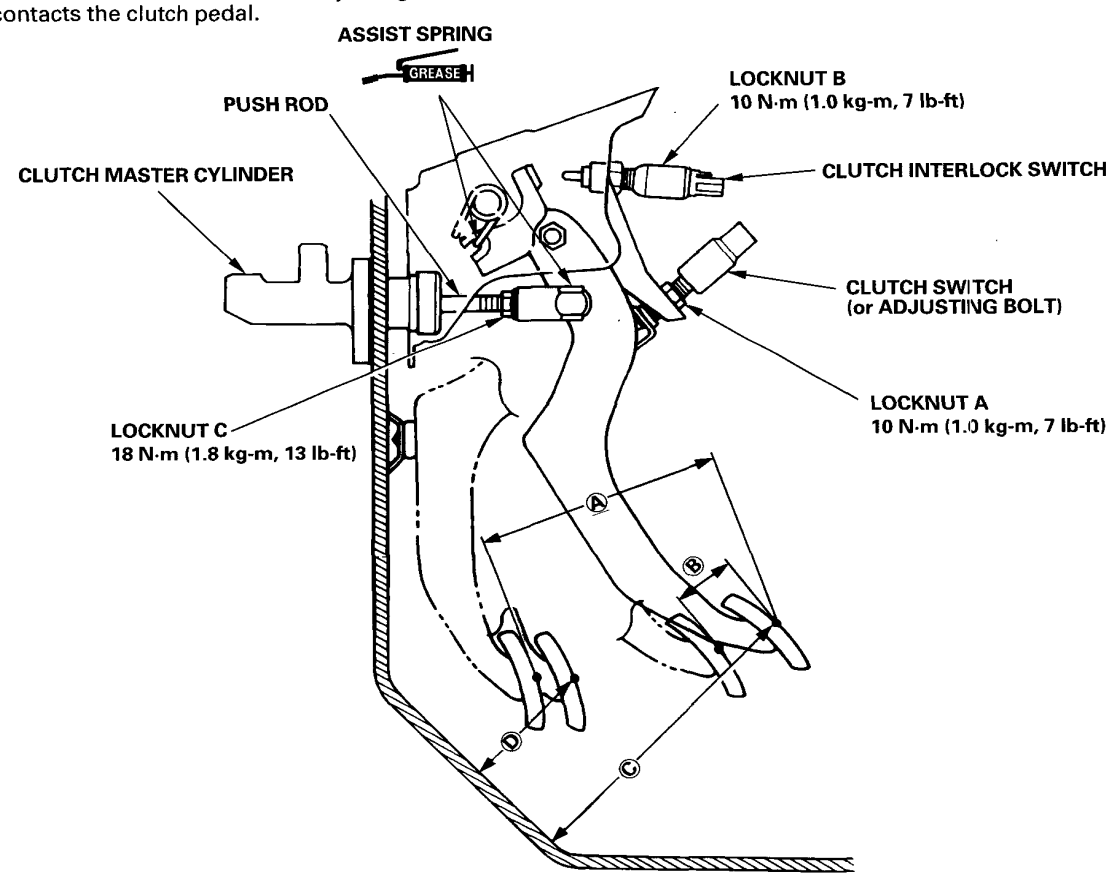
Clutch Pedal (With Clutch Interlock Switch)

Adjustment

NOTE:
- To check the clutch interlock switch and clutch switch, see section 23.
- The clutch is self-adjusting to compensate for wear.

CAUTION:
If there is no clearance between the master cylinder piston and push rod, the release bearing is held against the diaphragm spring, which can result in clutch slippage or other clutch problems.

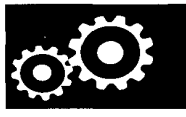
1. Loosen locknut A, and back off the clutch switch (or adjusting bolt) until it no longer touches the clutch pedal.
2. Loosen locknut C, and turn the push rod in or out to get the specified stroke (Ⓐ) and height (Ⓒ) at the clutch pedal.
3. Tighten locknut C.
4. Thread in the clutch switch (or adjusting bolt) until it contacts the clutch pedal.
5. Turn the clutch switch (or adjusting bolt) in an additional 3/4 to 1 full turn.
6. Tighten locknut A.
7. Loosen locknut B on the clutch interlock switch (with clutch interlock switch).
8. Measure the clearance between the floor board and clutch pedal with the clutch pedal fully depressed.
9. Release the clutch pedal 15 — 20 mm (0.59 — 0.79 in) from the fully depressed position and hold it there. Adjust the position of the clutch interlock switch so that the engine will start with the clutch pedal in this position.
10. Thread the clutch interlock switch an additional in 3/4 to 1 full turn.
11. Tighten locknut B.



Ⓐ (STROKE at PEDAL): 130 — 140 mm (5.12 — 5.51 in)
Ⓑ (TOTAL CLUTCH PEDAL FREE PLAY): 12 — 21 mm (0.47 — 0.83 in)
including the pedal play 1 — 10 mm (0.04 — 0.37 in)
Ⓒ (CLUTCH PEDAL HEIGHT): 164 mm (6.46 in) to the floor
Ⓓ (CLUTCH PEDAL DISENGAGEMENT HEIGHT): 83 mm (3.27 in) minimum to the floor

Manual Transmission

Y21/S21 Model
Manual Transmission 13-1
S22 Model
Manual Transmission 13-5



Y21/S21 Model
Manual Transmission

Countershaft Assembly
Clearance Inspection.....13-2
Transmission Assembly
Reassembly.....13-3

Outline of Model Changes

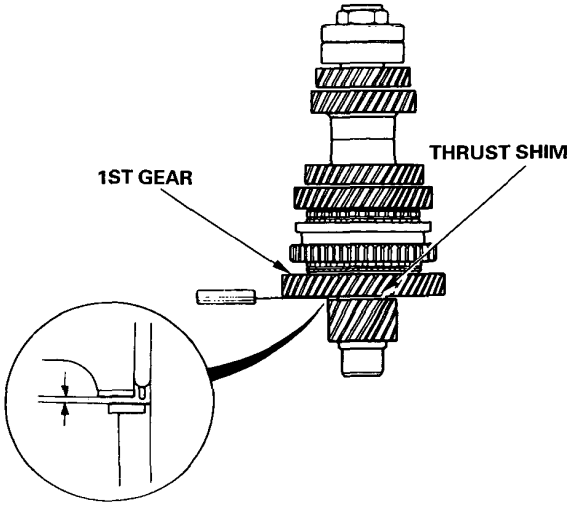
- S21 model has been added. Specifications of the S21 is same as that of Y21.
- Countershaft clearance inspection has been changed.
- Reverse idler shaft bolt torque has been changed.

Countershaft Assembly

Clearance Inspection

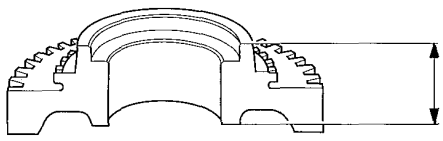
1. Measure the clearance between the 1st gear and thrust shim.

Standard : 0.045 – 0.205 mm (0.0018 – 0.0082 in)
Service Limit : 0.265 mm (0.0104 in)

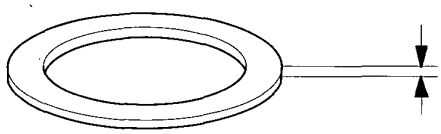


2. If the clearance exceeds the service limit, measure the thicknesses of 1st gear and thrust shim.

1ST GEAR
Standard : 31.45 – 31.50 mm (1.238 – 1.240 in)



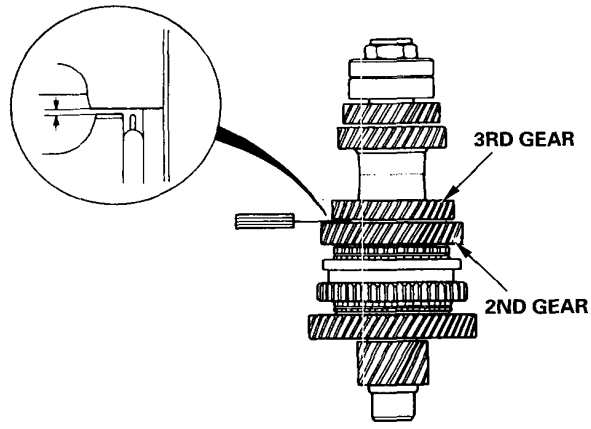
THRUST SHIM
Standard : 1.945 – 1.955 mm (0.0766 – 0.0770 in)



- If the thicknesses of 1st gear and thrust shim are less than the standard, replace with a new one.
- If the thicknesses of 1st gear and thrust shim are within the standard, replace the 1st/2nd synchro hub with a new one.

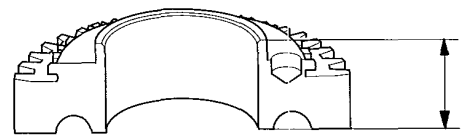
3. Measure the clearance between the 2nd and 3rd gears.

Standard : 0.07 – 0.14 mm (0.003 – 0.006 in)
Service Limit : 0.20 mm (0.008 in)

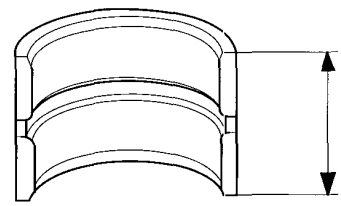


4. If the clearance exceeds the service limit, measure the thicknesses of 2nd gear and spacer collar.

2ND GEAR
Standard : 28.92 – 28.97 mm (1.139 – 1.141 in)



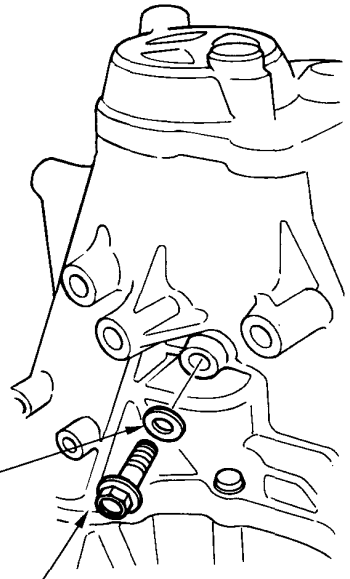
SPACER COLLAR
Standard : 29.07 – 29.09 mm (1.144 – 1.145 in)



- If the thicknesses of 2nd gear and spacer collar are less than the standard, replace with a new one.
- If the thicknesses of 2nd gear and spacer collar are within the standard, replace the 1st/2nd synchro hub with a new one.

Reassembly

Torque the reverse idler shaft bolt as shown.

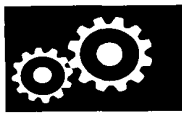


WASHER
Replace.

REVERSE IDLER SHAFT BOLT
10 x 1.25 mm
44 N·m (4.5 kg-m, 33 lb-ft)

S22 Model
Manual Transmission

Transmission Assembly
Reassembly.....13-6



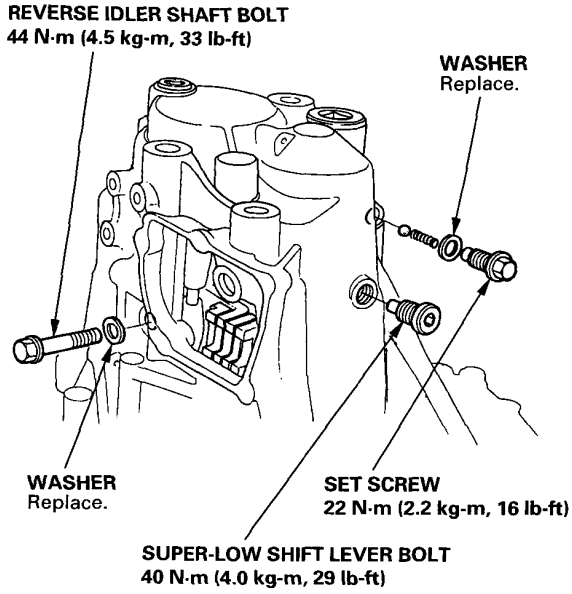
Outline of Model Change

- Reverse idler shaft bolt torque has been changed.

Transmission Assembly

Reassembly

Torque the reverse idler shaft bolt as shown.



SUPPLEMENTAL RESTRAINT SYSTEM (SRS)
(If automatic transmission maintenance is required

The Civic SRS includes a driver's airbag, located in the steering wheel hub. In addition, some models have also a front passenger's airbag located in the dashboard above the glove box. There are two types of SRS: Type II (SRS unit is part of the airbag assembly), which is used for models without front passenger's airbag, and Type III (SRS unit is not part of the airbag assembly and has built-in sensors), which is used for models with front passenger's airbag. Information necessary to safely service the SRS is included in this Shop Manual. Items marked with an asterisk (*) on the contents page include, or are located near, SRS components. Servicing, disassembling or replacing these items will require special precautions and tools, and should therefore be done by an authorized Honda dealer.

⚠WARNING

- **To avoid rendering the SRS inoperative, which could lead to personal injury or death in the event of a severe frontal collision, all SRS service work must be performed by an authorized Honda dealer.**
- **Improper service procedures, including incorrect removal and installation of the SRS, could lead to personal injury caused by unintentional activation of the airbag(s).**
- **Do not bump the SRS unit. Otherwise, the system may fail in case of a collision, or the airbags may deploy when the ignition switch is ON (II) (SRS Type III).**
- **All SRS electrical wiring harnesses are covered with yellow insulation. Related components are located in the steering column, front console, dashboard, dashboard lower panel, and, in case of some models, in the dashboard above the glove box. Do not use electrical test equipment on these circuits.**
- **Service work nearby and in the areas listed below may affect the SRS and must therefore be performed by an authorized Honda dealer.**

SRS Type II:
- Steering wheel (Be careful not to bump the steering wheel as the SRS unit (sensors), inflator, etc. are located in it.)
- Behind the dashbord
- Under-dash fuse/relay box

SRS Type III:
- Steering wheel
- Behind the dashboard
- Under-dash fuse/relay box
- Front console
- Car stereo unit and other accessories
- A/C heater

2WD Automatic Transmission S24A

Special Tools 14-2

Road Test 14-4

Illustrated Index

Torque Converter Housing/

Valve Body 14-6

Sub-Shaft

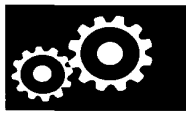
Disassembly/Reassembly 14-8

Clutch

Illustrated Index 14-9

Gearshift Selector

Disassembly/Reassembly 14-10

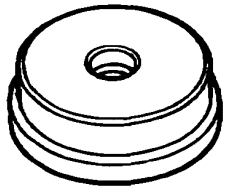


Outline of Model Changes

- Shift schedule has been changed.
- ATF magnet has been discontinued.
- Installation procedure of sub-shaft oil guide cap has been modified.
- 1st-hold clutch piston has been modified.
- Gearshift selector for KB and KM models has been modified.

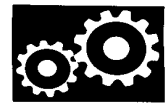
Special Tools

Ref. No.	Tool Number	Description	Qty	Remark
①	07746—0010100	Attachment, 32 x 35 mm	1	
②	07749—0010000	Driver	1	



①

②



NOTE:
Warm up the engine to operating temperature.

1. Apply parking brake and block the wheels. Start the engine, then move the selector lever to [D4] position while depressing the brake pedal. Depress the accelerator pedal, and release it suddenly. Engine should not stall.
2. Repeat same test in [D3] position.
3. Shift the selector lever to [D4] position and check that the shift points occur at approximate speeds shown. Also check for abnormal noise and clutch slippage.

D15B2 and D15B7 engines: [D4] or [D3] Position

• Upshift

Throttle Opening	Unit of speed	1st → 2nd	2nd → 3rd	3rd → 4th
Full-closed throttle	Km/h	15.0—19.0	36.4—40.4	49.3—53.3
	mph	9.3—11.8	22.6—25.1	30.6—33.1
3/16 throttle	Km/h	21.0—25.0	49.4—53.4	65.8—71.8
	mph	13.0—15.5	30.7—33.2	40.9—44.6
6/16 throttle	Km/h	25.9—33.9	60.3—72.3	82.8—94.8
	mph	16.1—21.1	37.5—44.9	51.4—58.9
Full-opened throttle	Km/h	49.4—53.9	91.1—98.6	142.6—153.1
	mph	30.7—33.5	56.6—61.3	88.6—95.1

• Downshift

Throttle Opening	Unit of speed	4th → 3rd	3rd → 2nd	2nd → 1st
Full-closed throttle	Km/h	———	28.5—32.5	8.8—12.8
	mph	———	17.7—20.2	5.5—8.0
Full-opened throttle	Km/h	120.1—130.6	82.8—90.3	40.0—44.5
	mph	74.6—81.2	51.4—56.1	24.9—27.7

• Lock-up

Throttle Opening	Unit of speed	D4 Position		D3 Position	
		Lock-up ON	Lock-up OFF	Lock-up ON	Lock-up OFF
Full-closed throttle	Km/h	24—27	23—26	97—103	92—98
	mph	15—17	14—16	60—64	57—61
6/16 throttle	Km/h	107—113	87—93	107—113	92—98
	mph	66—70	54—58	66—70	57—61
Full-opened throttle	Km/h	141—147	136—142	132—138	126—132
	mph	88—91	85—88	82—86	78—82

D16Z6, D16Z7 and D16Y1 engines: [D4] or [D3] Position

• Upshift

Throttle Opening	Unit of speed	1st → 2nd	2nd → 3rd	3rd → 4th
Full-closed throttle	Km/h	15.0—19.0	36.4—40.4	49.3—53.3
	mph	9.3—11.8	22.6—25.1	30.6—33.1
3/16 throttle	Km/h	21.8—25.8	52.0—56.0	67.3—73.3
	mph	13.5—16.0	32.3—34.8	41.8—45.5
6/16 throttle	Km/h	27.3—35.3	65.2—77.2	85.7—97.7
	mph	17.0—21.9	40.5—48.0	53.3—60.7
Full-opened throttle	Km/h	55.4—59.9	104.0—111.5	151.2—161.7
	mph	34.4—37.2	64.6—69.3	94.0—100.5

• Downshift

Throttle Opening	Unit of speed	4th → 3rd	3rd → 2nd	2nd → 1st
Full-closed throttle	Km/h	———	28.5—32.5	8.8—12.8
	mph	———	17.7—20.2	5.5—8.0
Full-opened throttle	Km/h	130.1—140.6	92.5—100.0	37.8—42.3
	mph	80.8—87.4	57.5—62.1	23.5—26.3

• Lock-up

Throttle Opening	Unit of speed	D4 Position		D3 Position	
		Lock-up ON	Lock-up OFF	Lock-up ON	Lock-up OFF
Full-closed throttle	Km/h	24—27	23—26	98—104	92—98
	mph	15—17	14—16	61—65	57—61
6/16 throttle	Km/h	107—114	87—93	107—113	92—98
	mph	66—71	54—58	66—70	57—61
Full-opened throttle	Km/h	141—147	134—141	132—138	127—133
	mph	88—91	83—88	82—86	79—83

4. Accelerate to about 57 km/h (35 mph) so the transmission is in 4th, then shift [D4] to [2]. The car should immediately begin slowing down from engine braking.

   CAUTION:
   Do not shift from [D4] or [D3] position to [2] or [1] position at speeds over 160 km/h (100 mph); you may damage the transmission.

5. Check for abnormal noise and clutch slippage in the following positions.

   [1] (1st Gear) Position
   —1. Accelerate from a stop at full throttle. Check that there is no abnormal noise or clutch slippage.
   —2. Upshifts and downshifts should not occur with the selector in this position.

   [2] (2nd Gear) Position
   —1. Accelerate from a stop at full throttle. Check that there is no abnormal noise or clutch slippage.
   —2. Upshifts and downshifts should not occur with the selector in this position.

   [R] (Reverse) Position
   Accelerate from a stop at full throttle, and check for abnormal noise and clutch slippage.

6. Test in [P] (Parking) Position
   Park car on slope (approx. 16°), apply the parking brake, and shift into [P] position. Release the brake; the car should not move.

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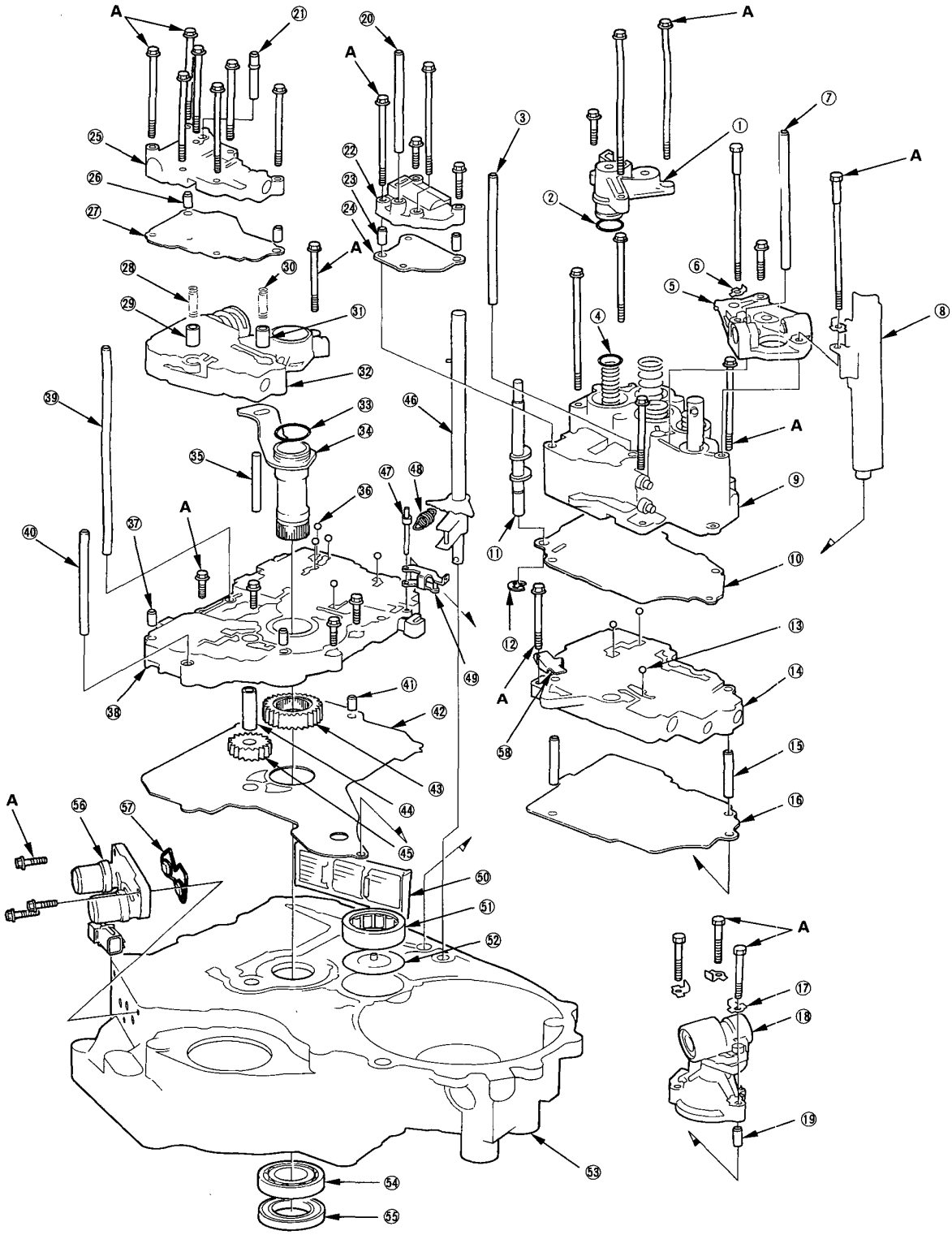
Torque Converter Housing/Valve Body



① **ACCUMULATOR COVER**
② **O-RING** Replace.
③ **OIL FEED PIPE**
④ **O-RING** Replace.
⑤ **SERVO DETENT BASE**
⑥ **LOCK WASHERS** Replace.
⑦ **OIL FEED PIPE**
⑧ **BAFFLE PLATE**
⑨ **SERVO BODY**
⑩ **SERVO SEPARATOR PLATE**
⑪ **THROTTLE CONTROL SHAFT**
⑫ **E-RING**
⑬ **CHECK BALLS**
⑭ **SECONDARY VALVE BODY**
⑮ **DOWEL PINS**
⑯ **SECONDARY SEPARATOR PLATE**
⑰ **LOCK WASHERS** Replace.
⑱ **GOVERNOR BODY**
⑲ **DOWEL PIN**
⑳ **OIL FEED PIPE**
㉑ **OIL FEED PIPE**
㉒ **MODULATOR VALVE BODY**
㉓ **DOWEL PINS**
㉔ **MODULATOR SEPARATOR PLATE**
㉕ **LOCK-UP VALVE BODY**
㉖ **DOWEL PINS**
㉗ **LOCK-UP SEPARATOR PLATE**
㉘ **COOLER CHECK VALVE SPRING**
㉙ **COOLER CHECK VALVE**
㉚ **TORQUE CONVERTER CHECK VALVE SPRING**
㉛ **TORQUE CONVERTER CHECK VALVE**
㉜ **REGULATOR VALVE BODY**
㉝ **O-RING** Replace.
㉞ **STATOR SHAFT**
㉟ **STOPPER SHAFT**
㊱ **CHECK BALLS**
㊲ **DOWEL PINS**
㊳ **MAIN VALVE BODY**
㊴ **OIL FEED PIPE**
㊵ **OIL FEED PIPE**
㊶ **DOWEL PIN**
㊷ **MAIN SEPARATOR PLATE**
㊸ **OIL PUMP DRIVE GEAR**
㊹ **OIL PUMP DRIVEN GEAR SHAFT**
㊺ **OIL PUMP DRIVEN GEAR**
㊻ **CONTROL SHAFT**
㊼ **DETENT ARM SHAFT**
㊽ **DETENT SPRING**
㊾ **DETENT ARM**
㊿ **ATF STRAINER**
(51) **TORQUE CONVERTER HOUSING COUNTERSHAFT NEEDLE BEARING**
(52) **OIL GUIDE PLATE**
(53) **TORQUE CONVERTER HOUSING**
(54) **TORQUE CONVERTER HOUSING MAINSHAFT BALL BEARING**
(55) **OIL SEAL** Replace.
(56) **LOCK-UP CONTROL SOLENOID VALVE ASSEMBLY**
(57) **LOCK-UP CONTROL SOLENOID FILTER/GASKET** Replace.
(58) **STOPPER SHAFT STAY**

TORQUE SPECIFICATIONS

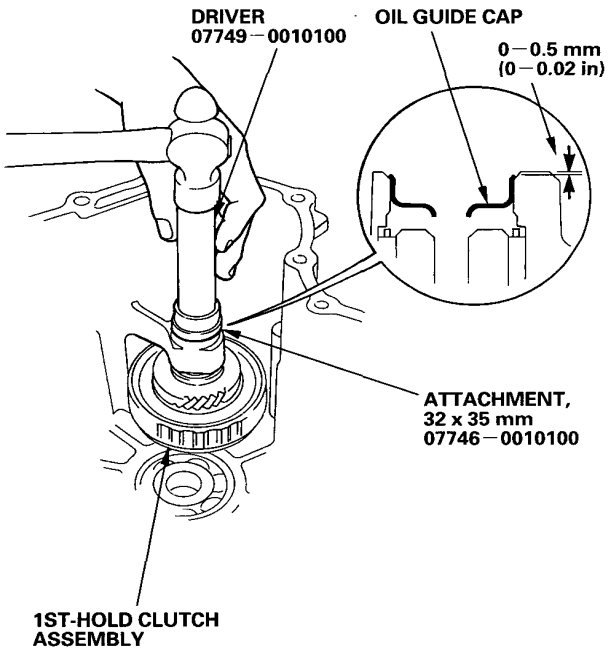
Ref No.	Torque Value	Bolt Size	Remarks
A	12 N·m (1.2 kg-m , 9 lb-ft)	6 x 1.0 mm	

Sub-shaft

Disassembly/Reassembly

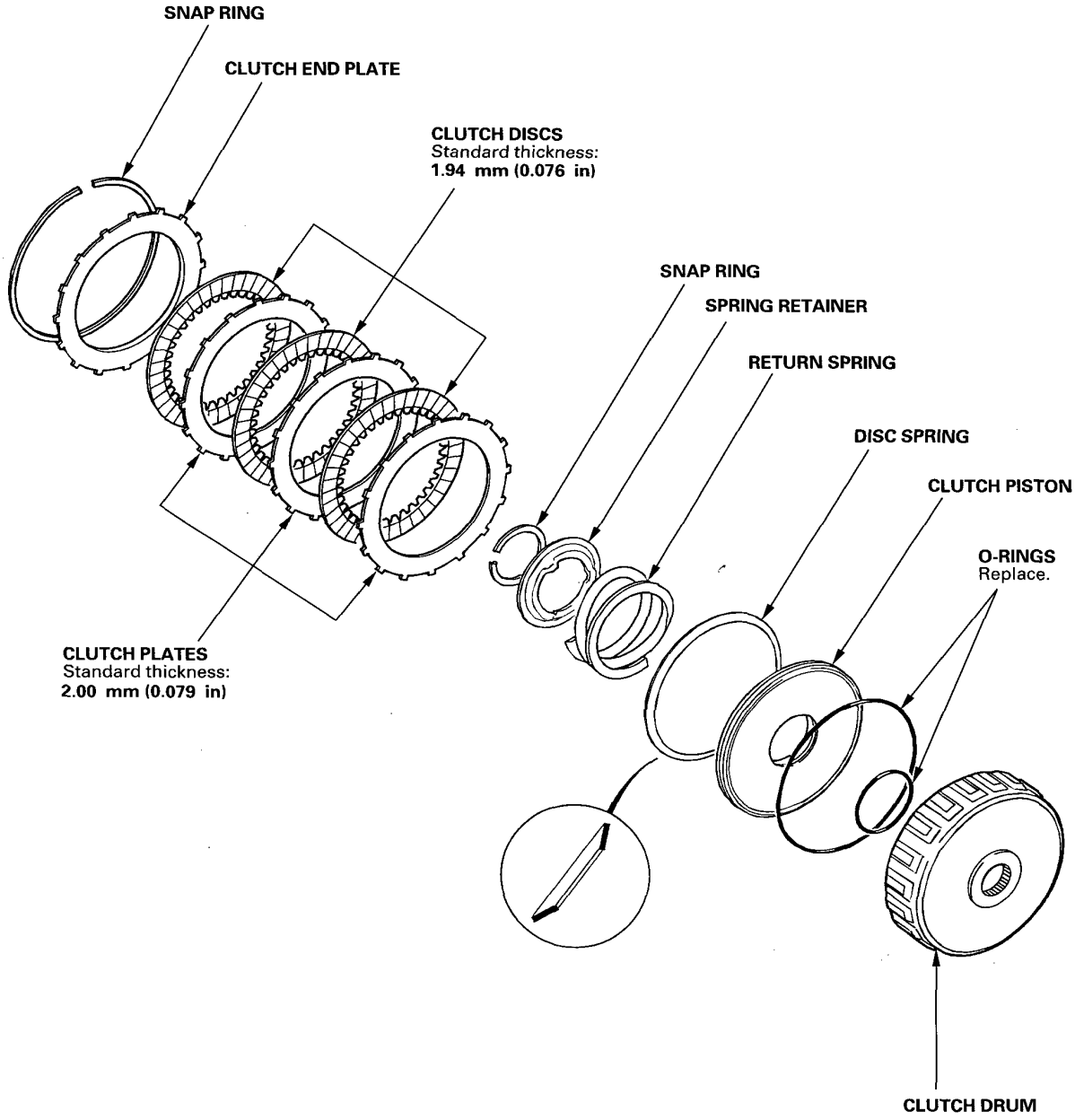
1. Remove the oil guide cap by pushing the sub-shaft inside the transmission housing.
2. Remove the 1st-hold clutch assembly by pulling the sub-shaft, then remove the sub-shaft.
3. Install new O-rings on the sub-shaft.

   NOTE:
   Wrap the shaft splines with tape to prevent damaging the O-rings.
4. Place the sub-shaft in the transmission housing and install the 1st-hold clutch assembly.
5. Install new oil guide cap using the special tools as shown.



Illustrated Index

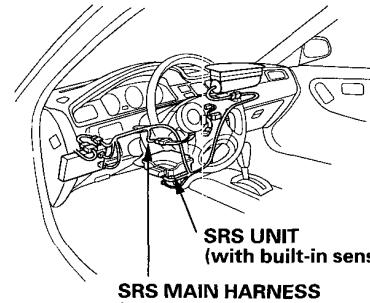
1ST-HOLD CLUTCH

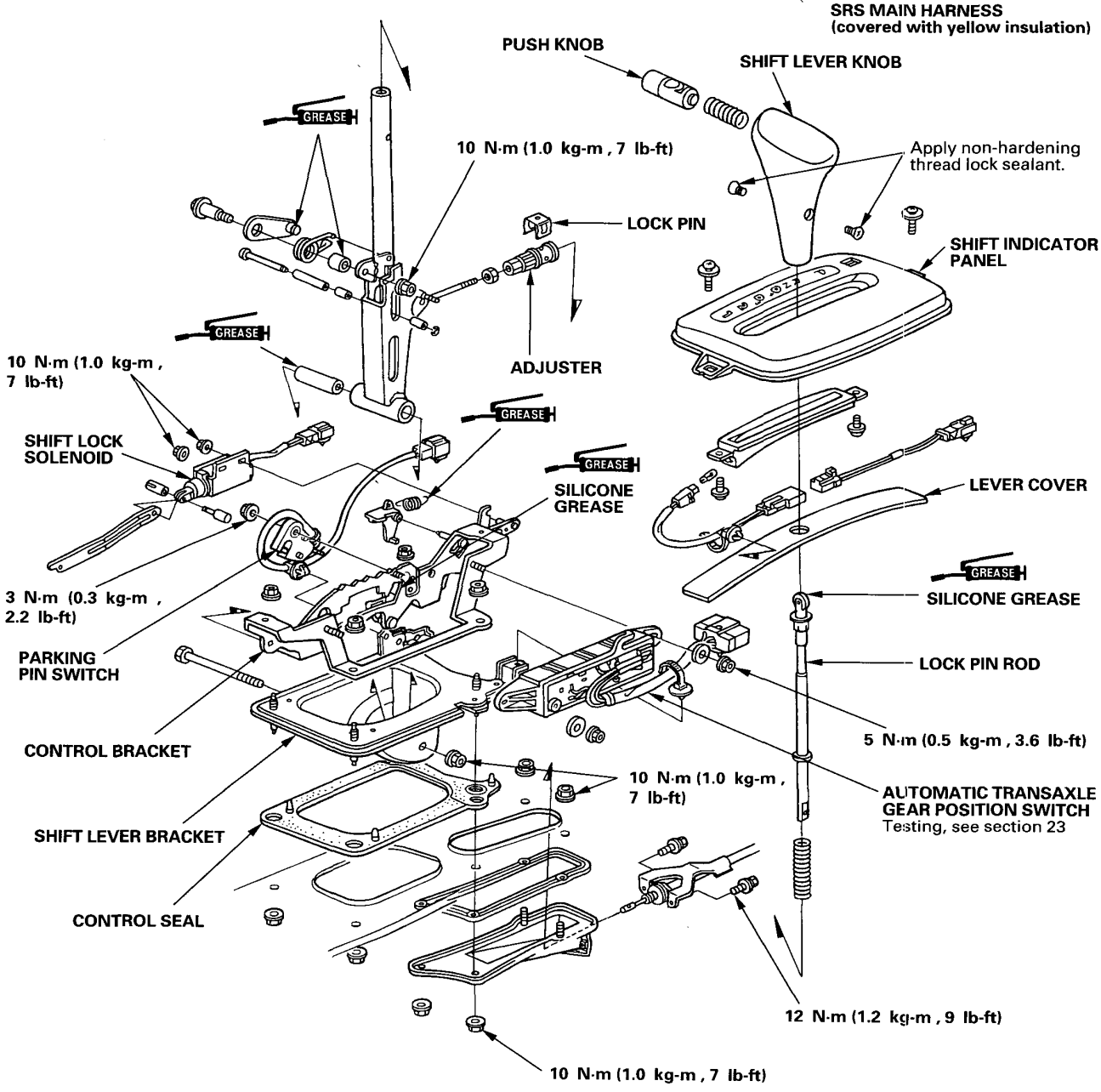


Gearshift Selector (KB and KM models)

Disassembly/Reassembly

CAUTION:
- All SRS wire harnesses are covered with yellow insulation.
- Whenever the ignition switch is ON (II), or has been turned OFF for less than three minutes, be careful not to bump the SRS unit; the airbags could accidentally deploy and cause damage or injuries.
- Before you disconnect any part of an SRS wire harness, connect the short connectors (RED) to the airbags.
- Refer to the additional precautions in the SRS sub-section (section 23).





SUPPLEMENTAL RESTRAINT SYSTEM (SRS) (If body maintenance is required)

The Civic SRS includes a driver's airbag, located in the steering wheel hub. In addition, some models have also a front passenger's airbag located in the dashboard above the glove box. There are two types of SRS: Type II (SRS unit is part of the airbag assembly), which is used for models without front passenger's airbag, and Type III (SRS unit is not part of the airbag assembly and has built-in sensors), which is used for models with front passenger's airbag. Information necessary to safely service the SRS is included in this Shop Manual. Items marked with an asterisk (*) on the contents page include, or are located near, SRS components. Servicing, disassembling or replacing these items will require special precautions and tools, and should therefore be done by an authorized Honda dealer.

⚠WARNING

- **To avoid rendering the SRS inoperative, which could lead to personal injury or death in the event of a severe frontal collision, all SRS service work must be performed by an authorized Honda dealer.**
- **Improper service procedures, including incorrect removal and installation of the SRS, could lead to personal injury caused by unintentional activation of the airbag(s).**
- **Do not bump the SRS unit. Otherwise, the system may fail in case of a collision, or the airbags may deploy when the ignition switch is ON (II) (SRS Type III).**
- **All SRS electrical wiring harnesses are covered with yellow insulation. Related components are located in the steering column, front console, dashboard, dashboard lower panel, and, in case of some models, in the dashboard above the glove box. Do not use electrical test equipment on these circuits.**
- **Service work nearby and in the areas listed below may affect the SRS and must therefore be performed by an authorized Honda dealer.**

SRS Type II:
- Steering wheel (Be careful not to bump the steering wheel as the SRS unit (sensors), inflator, etc. are located in it.)
- Behind the dashbord
- Under-dash fuse/relay box

SRS Type III:
- Steering wheel
- Behind the dashboard
- Under-dash fuse/relay box
- Front console
- Car stereo unit and other accessories
- A/C heater

Body

Doors
Outer Handle Replacement
(Front Door) 20-2
Latch Replacement (Front Door).....20-3
Door Channel Tape Replacement.....20-4
Emblems
Installation 20-11
* Frame Repair Chart.....20-12
License Plate Trim
Replacement (4D).....20-10
Seat Belts
Upper and Lower Anchor Bolt
Construction 20-9
Side Sill Panel
Replacement.....20-10

NOTE:
Refer to the 1992 Civic Shop Manual, P/N 62SR300, and the 1994 Civic Shop Manual Supplement, P/N 62SR321, for the items not shown in this section.

Outline of Model Changes

- The outer handle and latch replacement procedures have been changed (front door).
- The door channel tape replacement procedure has been added.
- The emblems for KM model have been added.
- The frame repair chart has been changed.
- The license plate trim replacement procedure has been changed (4D).
- The seat belt anchor bolt construction has been changed.
- The quantities of the side sill panel clips used have been changed.

Outer Handle Replacement (Front Door)

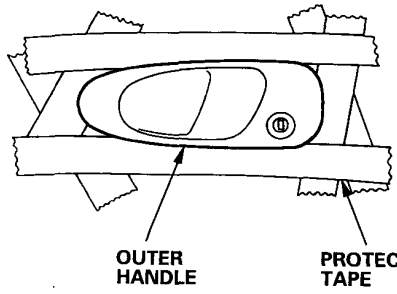
NOTE:
Raise the glass fully.

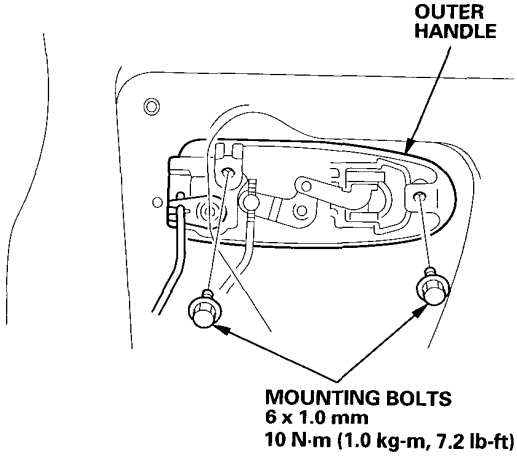
1. Remove:
   - Door panel
   - Plastic cover

2. Remove the mounting bolts.

   NOTE:
   Take care not to drop the mounting bolts inside the door.

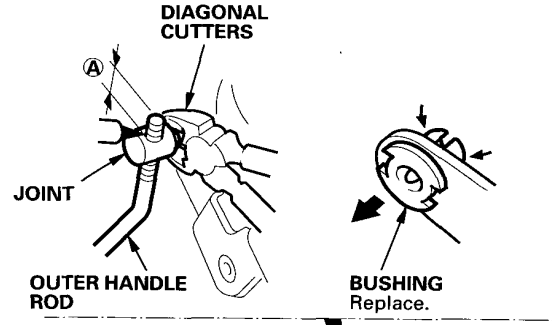
   CAUTION:
   Use protective tape around the outer handle to prevent damage.

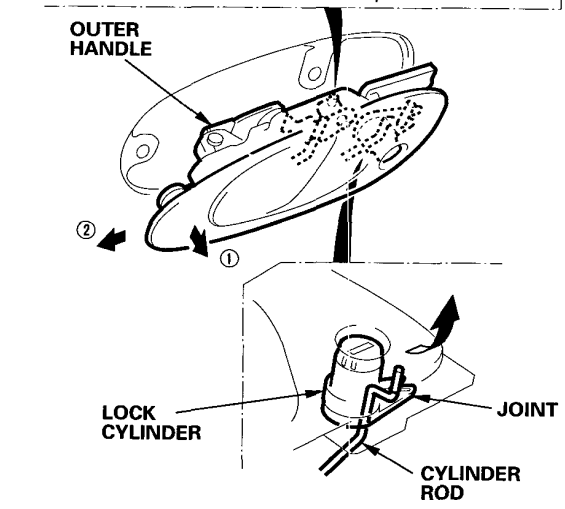




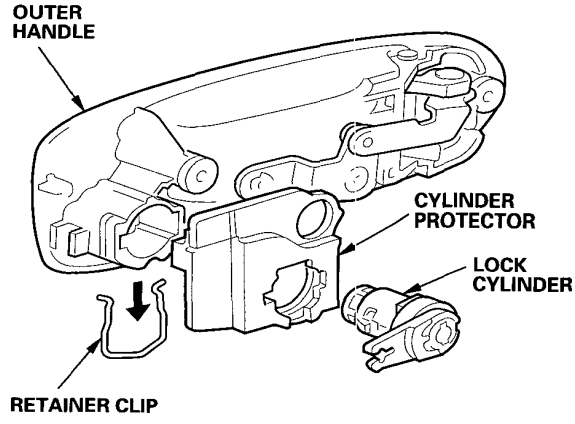
3. Pull out the outer handle.
   Pry the outer handle rod out of its joint using diagonal cutters, and disconnect the cylinder rod by turning the outer handle.

   NOTE:
   - To ease reassembly, note location Ⓐ of the outer handle rod on the joint before disconnecting it.
   - Take care not to bend the outer handle rod.
   - Take care not to damage the joint of the lock cylinder.





4. Pull out the retainer clip, then remove the lock cylinder and cylinder protector.



5. Installation is the reverse of the removal procedure.

   NOTE:
   - Make sure the outer handle rod and cylinder rod are connected securely.
   - Make sure the door locks and opens properly.

Latch Replacement (Front Door)

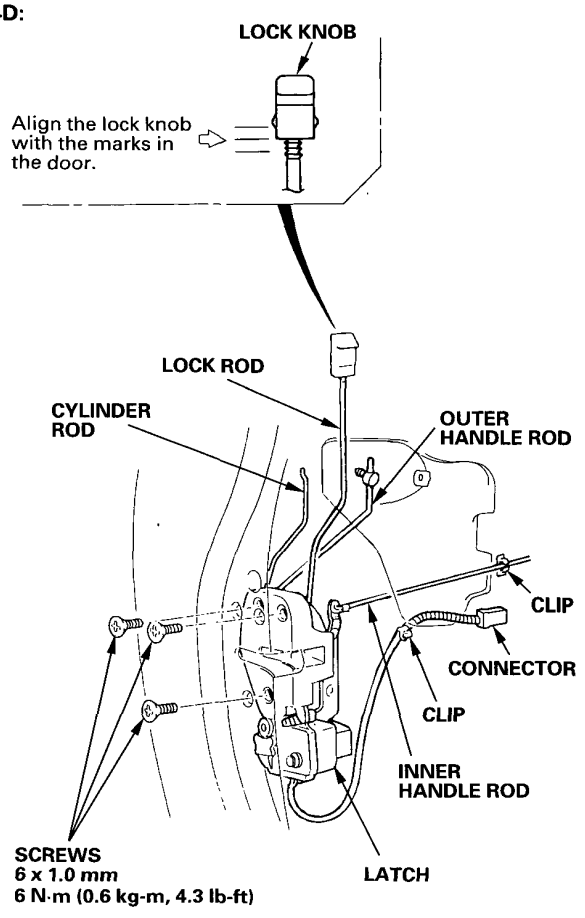
NOTE:
Raise the glass fully.

1. Remove:
   - Door panel
   - Plastic cover
   - Center channel
   - Outer handle (see page 20-2)

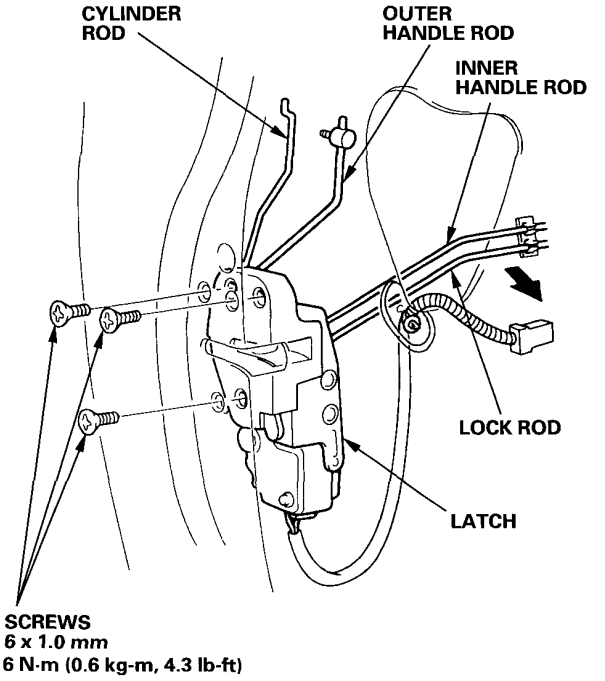
2. Disconnect and detach the connector from the door. Detach the inner handle rod and lock rod (3D) from the door. Remove the screws, then remove the latch through the hole in the door.

   NOTE:
   Take care not to bend the outer handle rod, cylinder rod, inner handle rod and lock rod.

4D:



3D:



3. Installation is the reverse of the removal procedure.

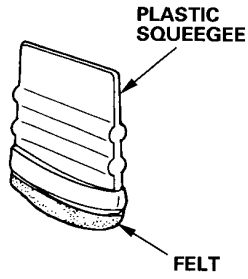
   NOTE:
   Make sure the door locks and opens properly.

Door Channel Tape Replacement

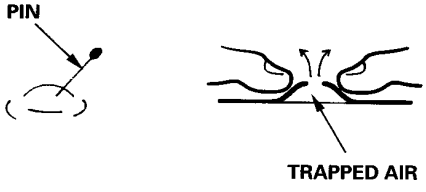
Japan-produced cars:

The following tools are required to replace the door channel tape.

- Plastic squeegee
- Alcohol
- Sponge or Shop towel
- Hair dryer
- Pin



NOTE:
- Keep dust away from the working area.
- When working at lower temperatures, heat the door channel and door channel tape with a hair dryer.
  Door channel: 59°F (15°C) min.
  Door channel tape: about 95°F (35°C).
- When heating the door channel tape, heat it evenly and gradually to prevent deformation.
- When pressing the door channel tape, slowly press it from the corner to prevent air bubbles and wrinkles.
- The symbol ( ) in the replacement illustrations means to use a hair dryer.
  Press the portion of the door channel tape with the symbol while heating it with a hair dryer.
- If there are air bubbles in the door channel tape, prick them with a pin, then release the air with your finger or a plastic squeegee.

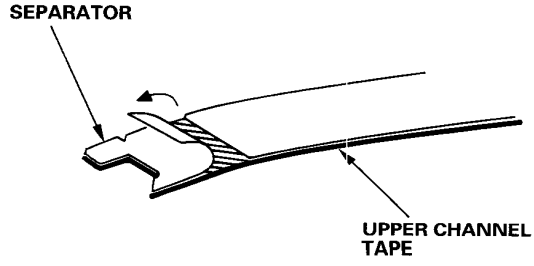


- If the air bubble is more than 10 mm (0.4 in) in diameter, peel up the door channel tape, then reapply it.

1. Remove the following parts.
   - Door panel
   - Power mirror
   - Sash trim
   - Corner sash trim (4D rear)
   - Glass (4D rear)
   - Glass run channel
   - Weatherstrip
2. Slowly peel up the old door channel tape while heating it with a hair dryer.
3. Clean the door channel bonding surface with a sponge dampened in alcohol.

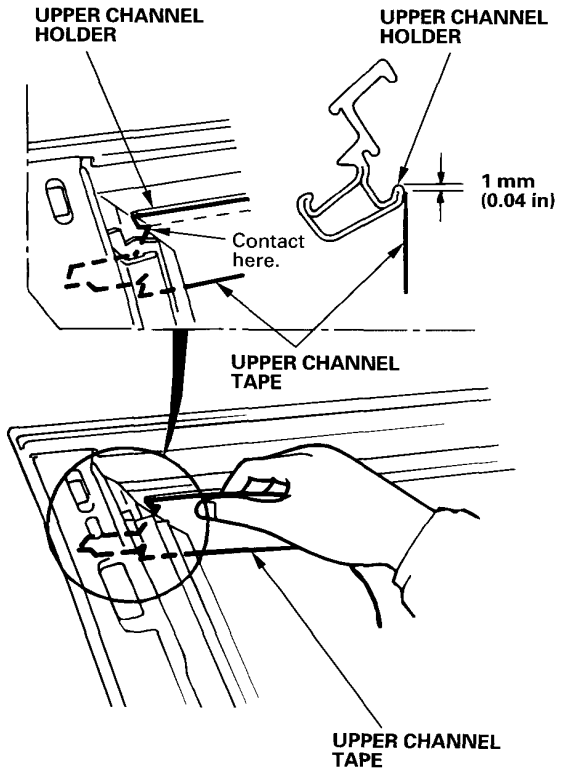
   NOTE:
   After cleaning, keep oil, grease and water from getting on the surface.
4. Apply the upper channel tape.

   —1) Peel the edge separator off the upper channel tape.

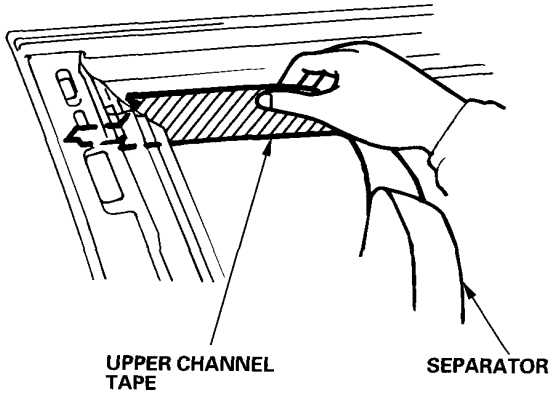


—2) Align edge of the upper channel tape with the upper channel holder from outside the door as shown.

NOTE:
Apply the upper channel tape 1 mm (0.04 in) from edge of the upper channel holder.

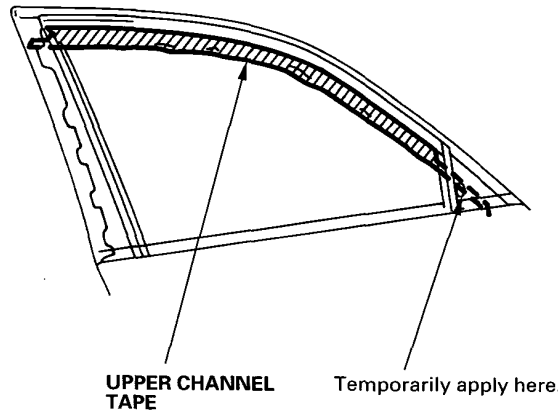


—3) Apply the upper channel tape to the upper channel holder while slowly peeling back the separater.

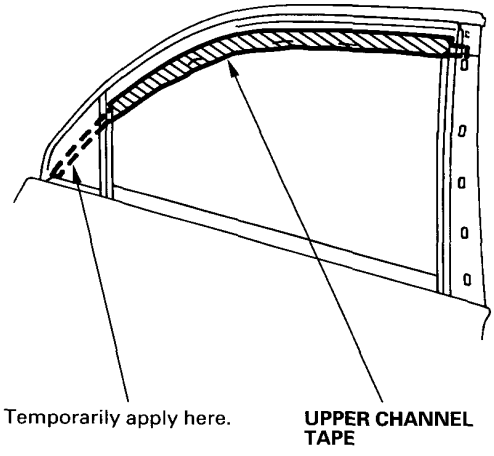


—4) Check that the upper channel tape is parallel with the upper channel holder, then temporarily apply the bottom edge of the upper channel tape.

3D/4D Front :



4D Rear :

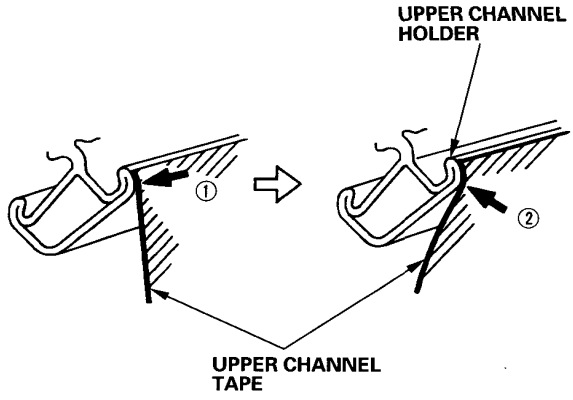


(cont'd)

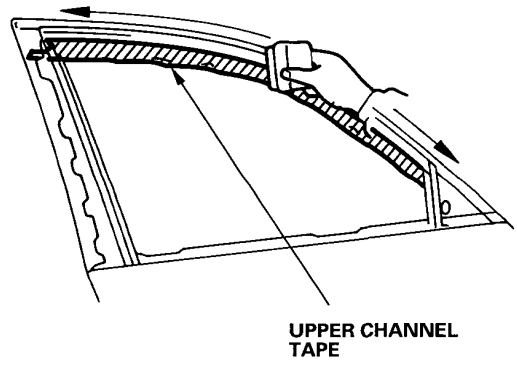
Door Channel Tape Replacement (cont'd)

—5) Slowly press the upper channel tape against the upper channel holder with a plastic squeegee (felt side).

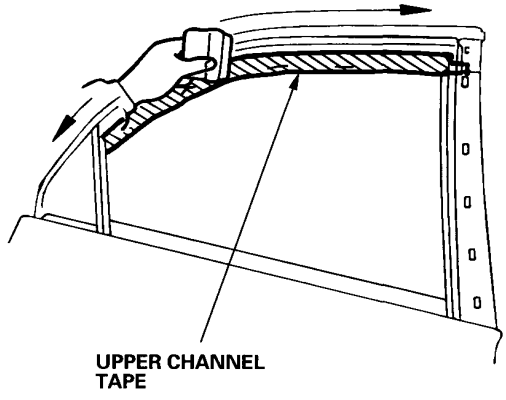
NOTE:
Press in numbered sequence.



3D/4D Front:

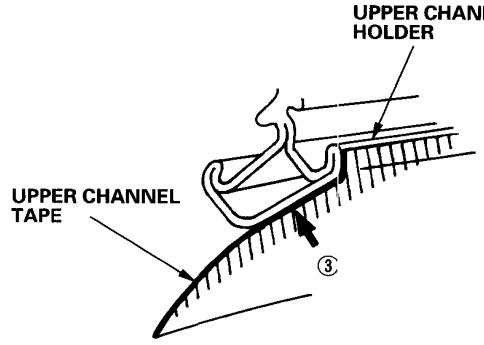


4D Rear:

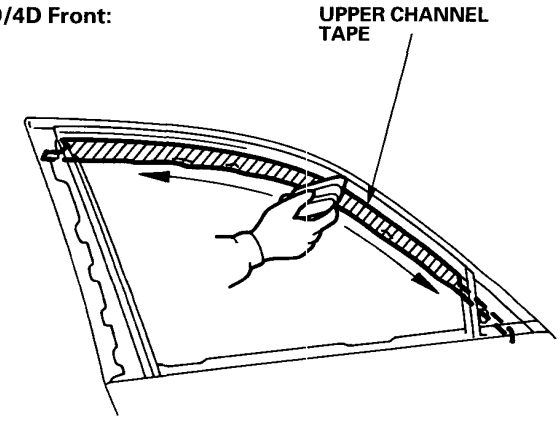


—6) Press the upper channel tape against the bottom of the upper channel holder as shown.

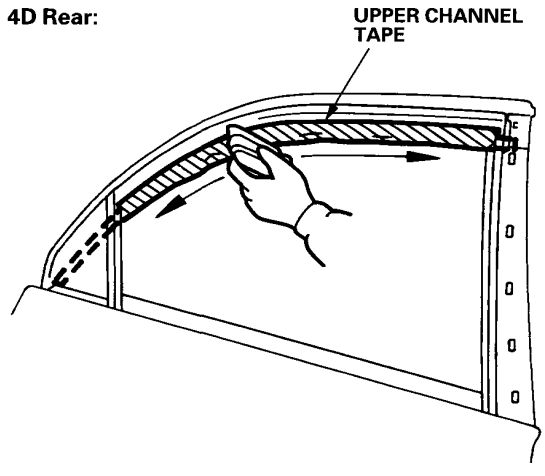
NOTE:
To prevent air bubbles, slowly press the upper channel tape from corner as shown.



3D/4D Front:

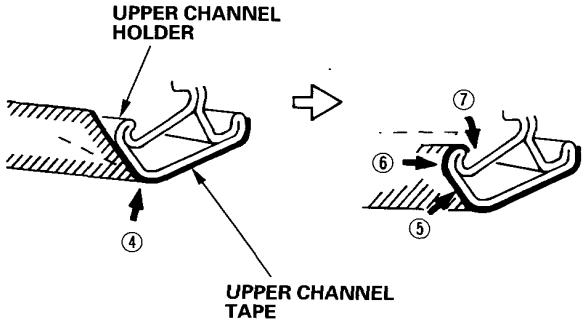


4D Rear:

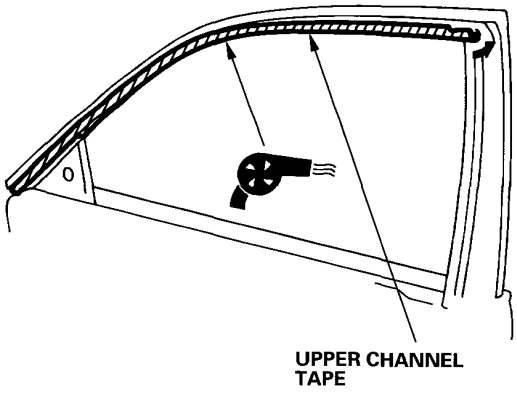


—7) Slowly press the upper channel tape against the upper channel holder from inside the door.

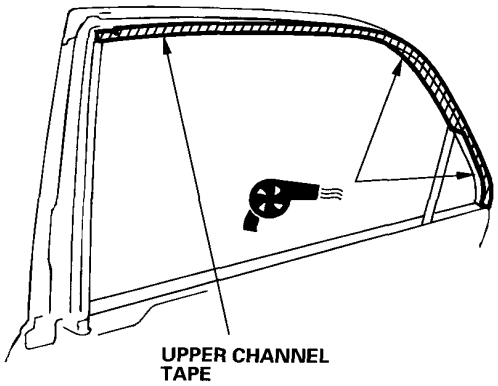
NOTE:
Do not roll the upper channel tape around prematurely. Follow the numbered sequence faithfully.



3D/4D Front :



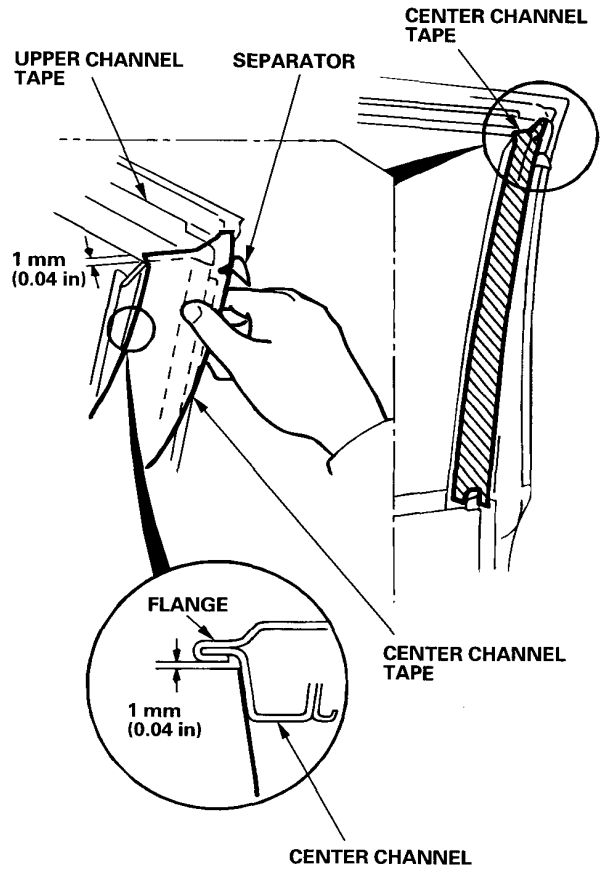
4D Rear :



5. Apply the center channel tape.

—1) Peel back the upper edge of the separator from the center channel tape, and align the upper edge of the center channel tape as shown. Overlap the upper channel tape by about 1 mm (0.04 in).

NOTE:
Apply the inside edge of the center channel tape 1 mm (0.04 in) from the flange.



(cont'd)

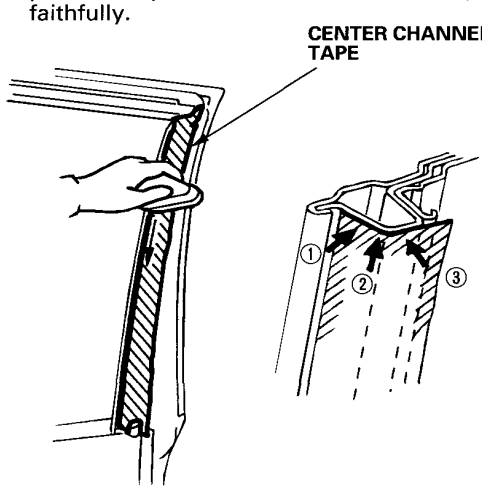
Door Channel Tape Replacement (cont'd)

—2) Apply the center channel tape to the center channel while peeling back the separater slowly.

NOTE:
Check that the center channel tape is parallel with the center channel.

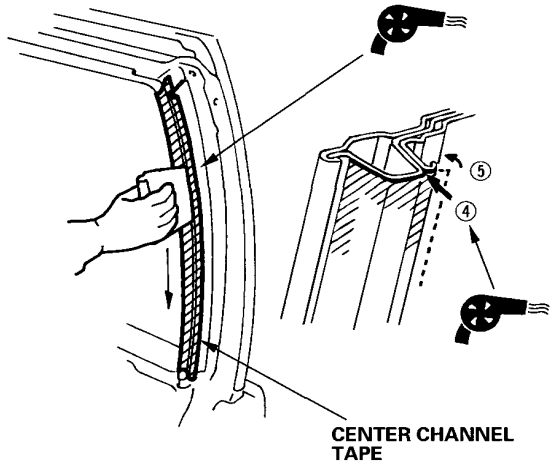
—3) Starting at the top, press the center channel tape with a plastic squeegee.

NOTE:
Do not roll the upper channel tape around prematurely. Follow the numbered sequence faithfully.



—4) Press the center channel tape in the groove of the center channel holder with the edge of a plastic squeegee.

NOTE:
Do not press too hard.



6. Reinstall all remaining parts.

NOTE:
Check that the body color on the door channel is covered by the door channel tape.

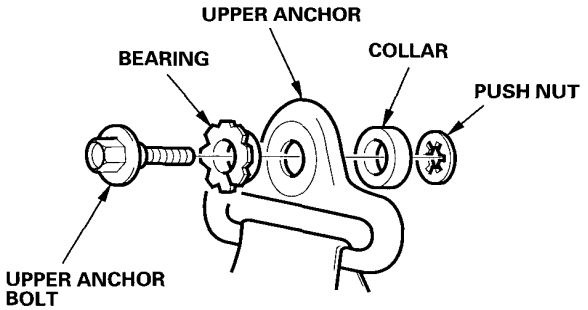
7. Check for water leaks.

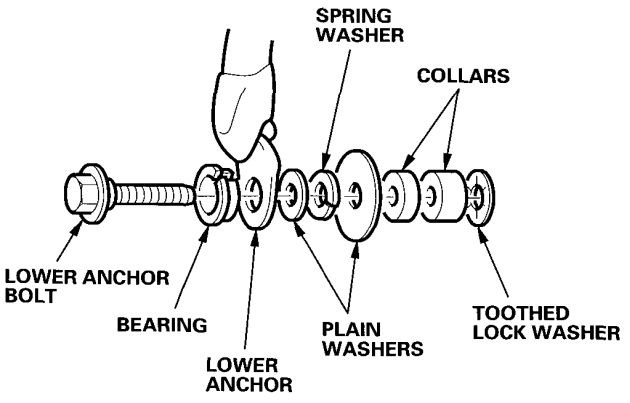
NOTE:
Do not use high-pressure water.

Upper and Lower Anchor Bolt Construction

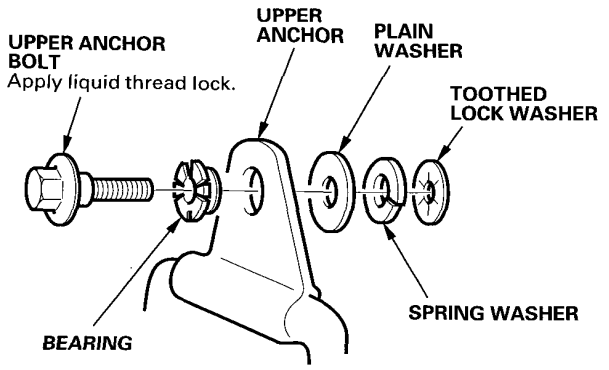
NOTE:
Make sure you assemble the washers and collars on the upper and lower anchor bolts as shown.

Front seat belt:
4D:

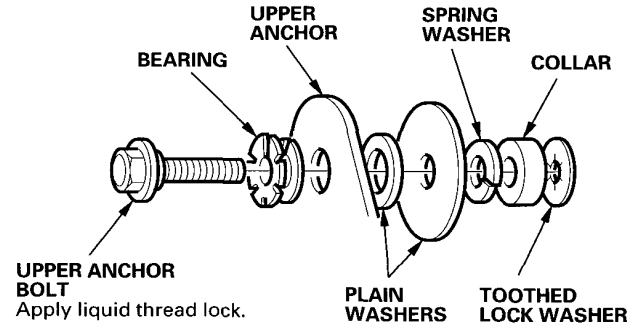




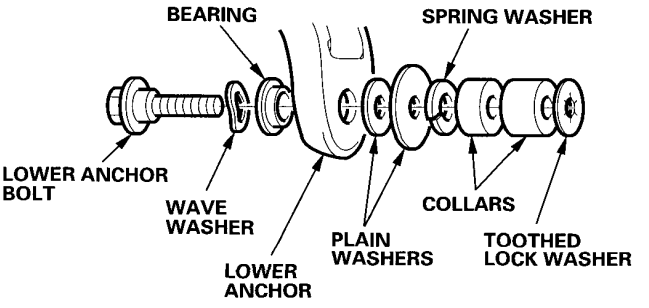
Rear seat belt:
4D/3D:



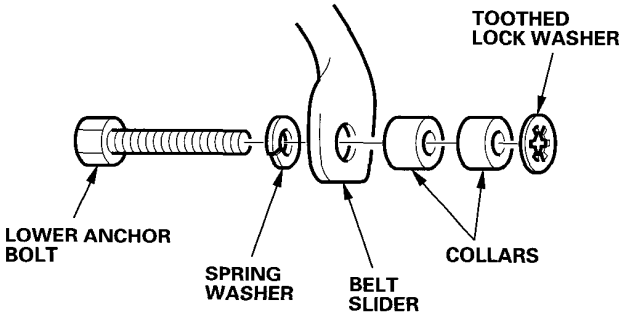
3D:



KY, KM (Canada-produced cars) models:



For some models:



License Plate Trim / Side Sill Planel

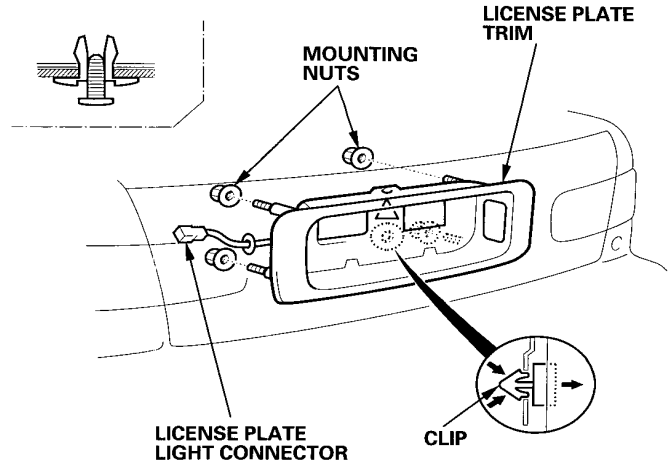
License Plate Trim Replacement

For some models (4D):

▷ : **Clip location, 1**

NOTE:
- Take care not to scratch the trunk lid.
- Remove the license plate.

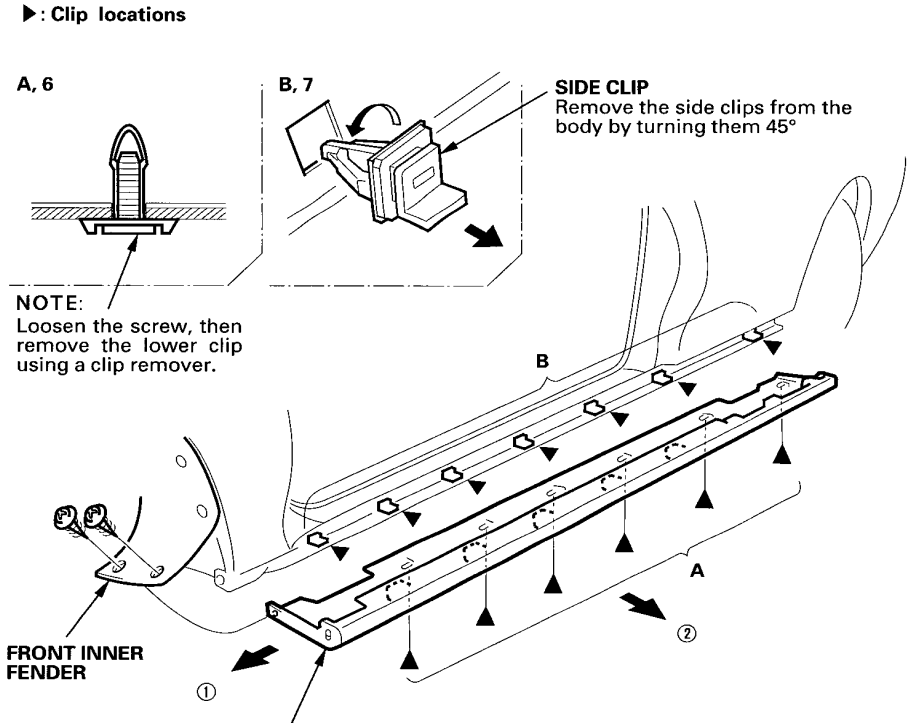
Disconnect the license plate light connector. Remove the mounting nuts and detach the clips, then remove the license plate trim.

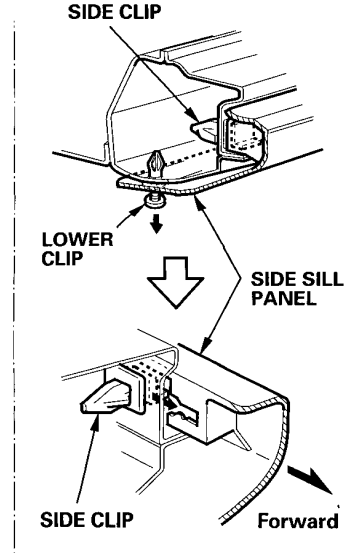


Installation is the reverse of the removal procedure.

Side Sill Panel Replacement

▶ : **Clip locations**


A, 6
B, 7
SIDE CLIP
Remove the side clips from the body by turning them 45°
NOTE:
Loosen the screw, then remove the lower clip using a clip remover.
B
A
FRONT INNER FENDER
SIDE SILL PANEL
Remove the lower clips, then remove the side sill panel by sliding it forward.



NOTE:
When removing the side sill panel, the side clips will stay in the body.

To install the side sill panel, remove the side clips from the body, install them on the side sill panel, then install the side sill panel on the car.

NOTE:
- Take care not to twist the side sill panel.
- If necessary, replace any damaged side and lower clips.

Emblems

Installation

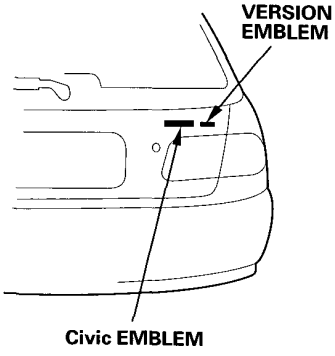
Apply the emblems where shown.

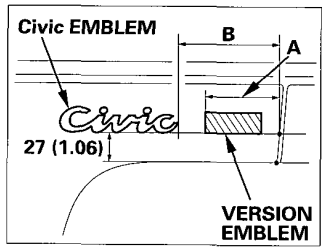
Unit: mm (in)

NOTE:
- Before applying, clean the body surface with a sponge dampened in alcohol.
- After cleaning, keep oil, grease or water from getting on the surface.
- When applying, make sure there are no wrinkles in the emblems.

Attachment Points (Reference) :

3D:

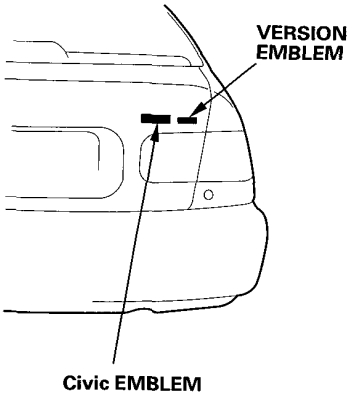


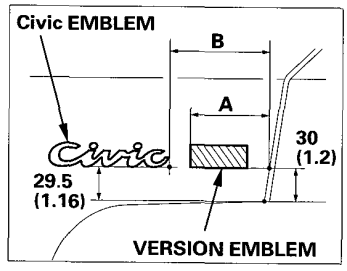


KM model

Emblem	A	B
DX	94.5 (3.72)	105.5 (4.15)
Si	68.5 (2.7)	79.5 (3.13)
VTi	88.5 (3.48)	105.5 (4.15)

4D:



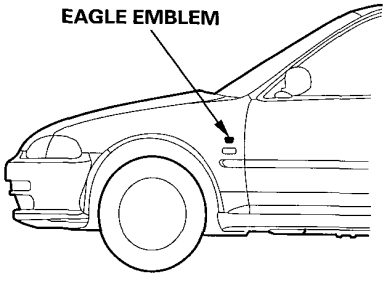


KR model

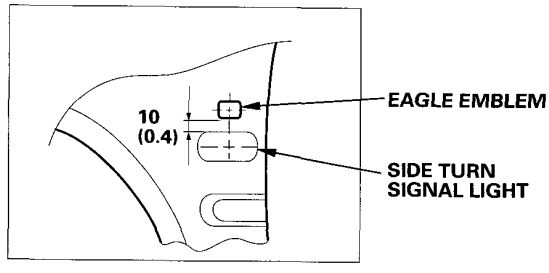
Emblem	A	B
EX	86 (3.4)	97 (3.8)

KM model

Emblem	A	B
LX	85.5 (3.37)	96.5 (3.79)
EX	86 (3.4)	97 (3.8)



KM model



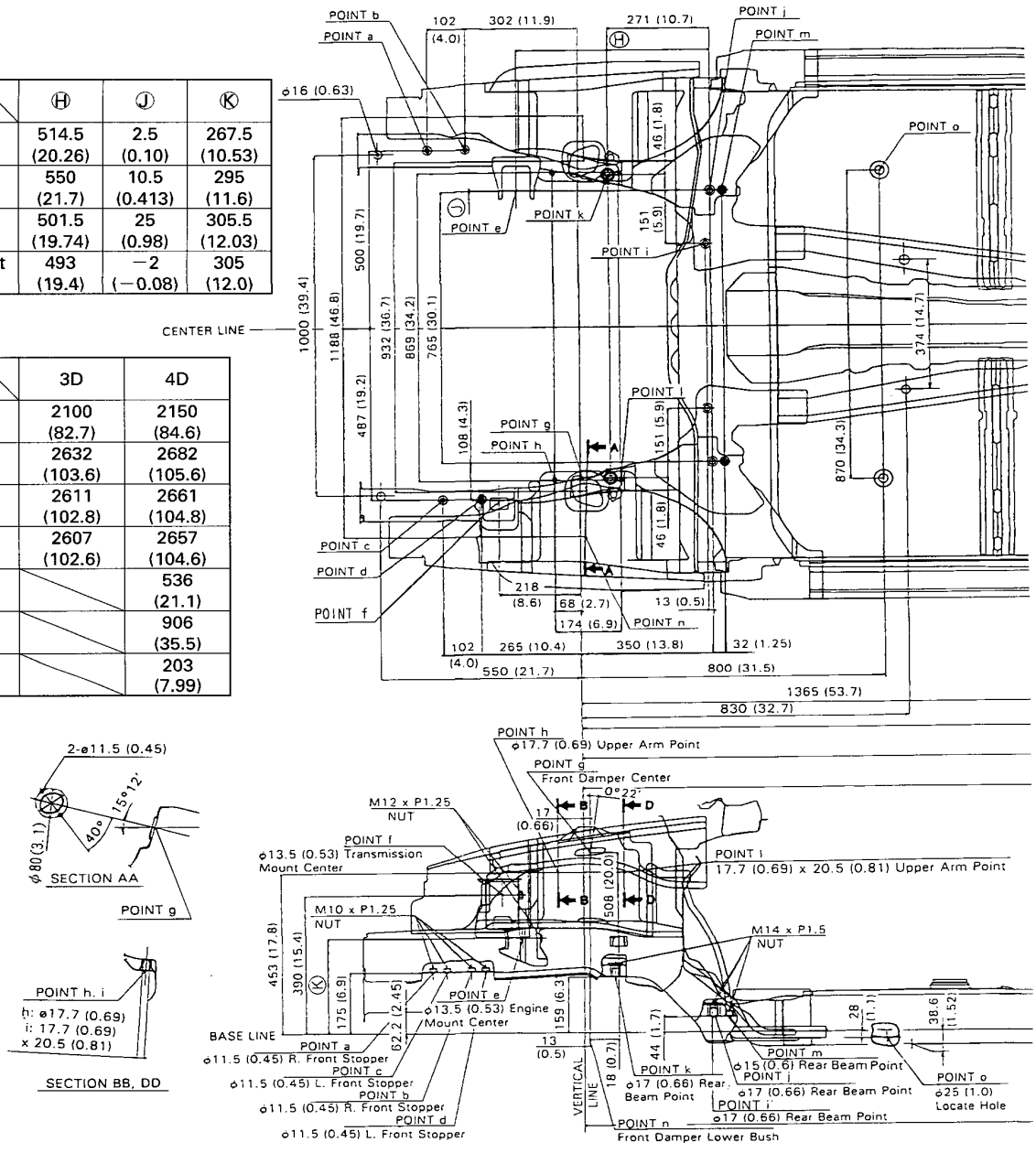
Frame Repair Chart

Unit: mm (in)

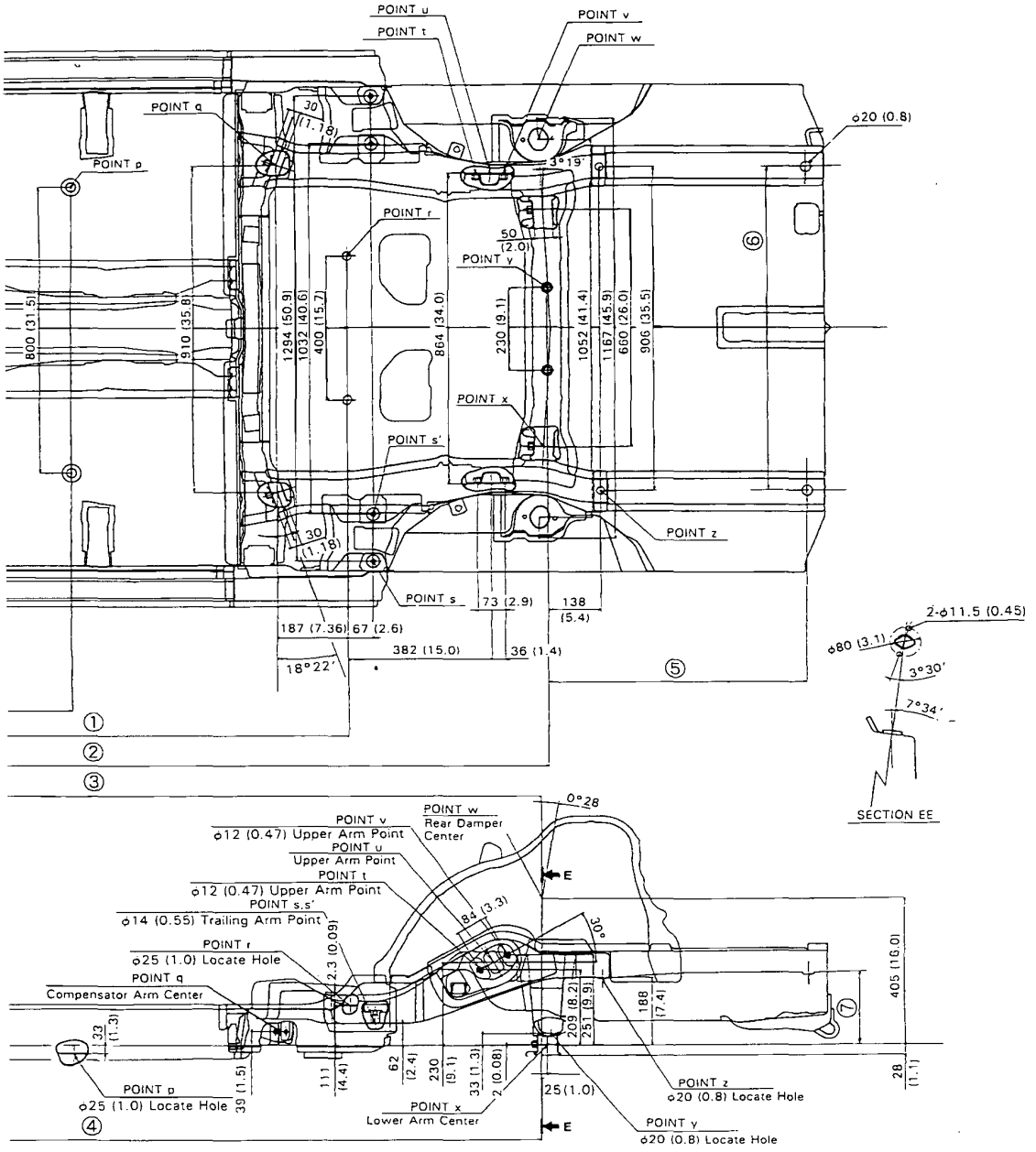
ø: Inner diameter

Distance / Model		Ⓗ	Ⓙ	Ⓚ
M/T	2WD	514.5 (20.26)	2.5 (0.10)	267.5 (10.53)
	4WD	550 (21.7)	10.5 (0.413)	295 (11.6)
A/T	VTEC	501.5 (19.74)	25 (0.98)	305.5 (12.03)
	Except VTEC	493 (19.4)	−2 (−0.08)	305 (12.0)

Model / Distance	3D	4D
①	2100 (82.7)	2150 (84.6)
②	2632 (103.6)	2682 (105.6)
③	2611 (102.8)	2661 (104.8)
④	2607 (102.6)	2657 (104.6)
⑤		536 (21.1)
⑥		906 (35.5)
⑦		203 (7.99)



2WD:


POINT u
POINT t
POINT v
POINT w
POINT q
POINT p
POINT r
POINT y
POINT x
POINT s'
POINT z
POINT s
ϕ20 (0.8)
2-ϕ11.5 (0.45)
ϕ80 (3.1)
3°30'
7°34'
SECTION EE
18°22'
382 (15.0)
187 (7.36)
67 (2.6)
73 (2.9)
138 (5.4)
36 (1.4)
POINT v
ϕ12 (0.47) Upper Arm Point
POINT u
Upper Arm Point
POINT t
ϕ12 (0.47) Upper Arm Point
POINT s,s'
ϕ14 (0.55) Trailing Arm Point
POINT r
ϕ25 (1.0) Locate Hole
POINT q
Compensator Arm Center
POINT w
Rear Damper Center
POINT p
ϕ25 (1.0) Locate Hole
POINT x
Lower Arm Center
POINT z
ϕ20 (0.8) Locate Hole
POINT y
ϕ20 (0.8) Locate Hole
25 (1.0)

(cont'd)

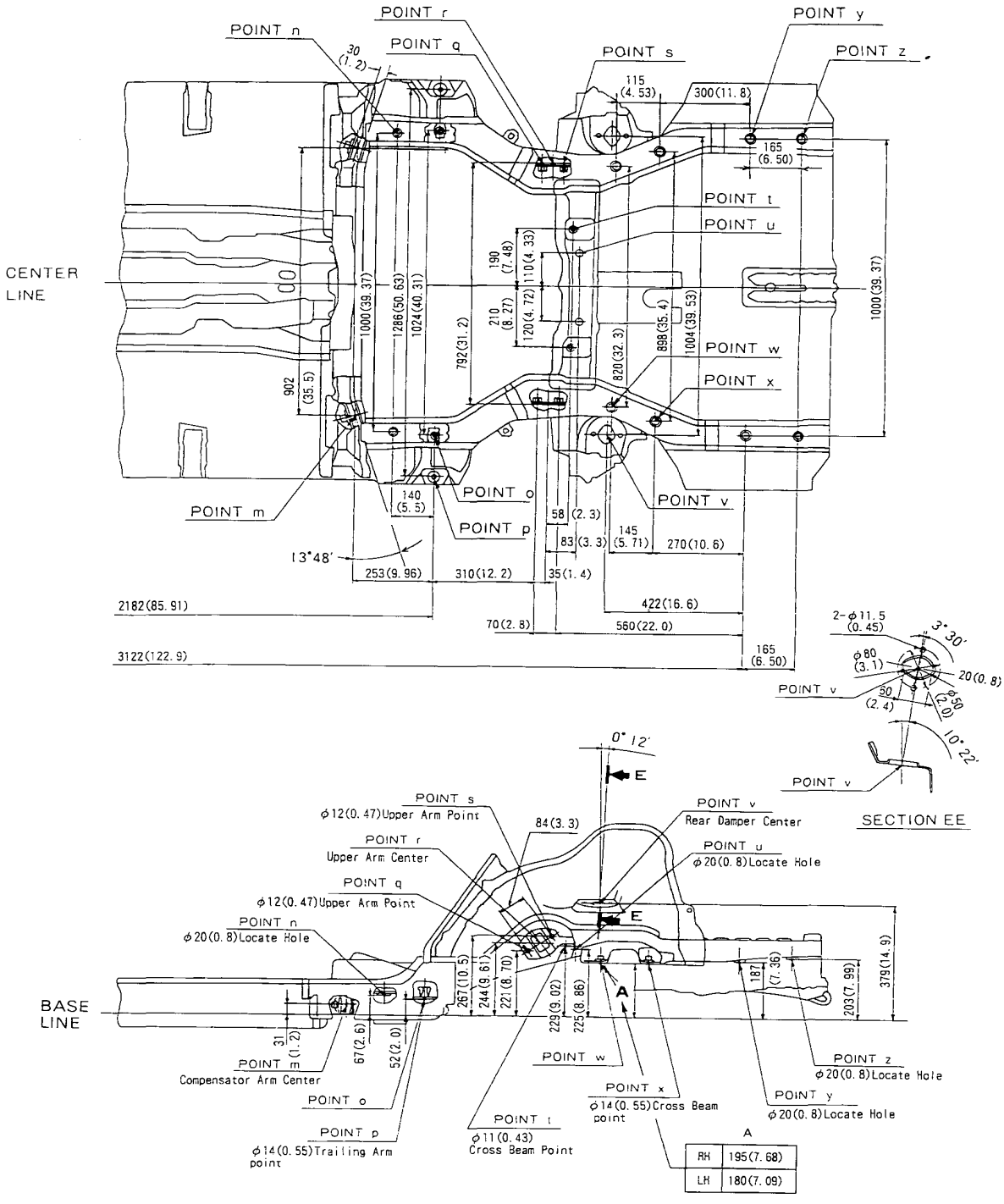
Frame Repair Chart

(cont'd)

4WD:

NOTE:
The distance of the engine compartment is described the table on page 20-12.

Unit: mm (in)
ø: Inner diameter



SUPPLEMENTAL RESTRAINT SYSTEM (SRS)

The Civic SRS includes a driver's airbag, located in the steering wheel hub. In addition, some models have also a front passenger's airbag located in the dashboard above the glove box. There are two types of SRS: Type II (SRS unit is part of the airbag assembly), which is used for models without front passenger's airbag, and Type III (SRS unit is not part of the airbag assembly and has built-in sensors), which is used for models with front passenger's airbag. Information necessary to safely service the SRS is included in this Shop Manual. Items marked with an asterisk (*) on the contents page include, or are located near, SRS components. Servicing, disassembling or replacing these items will require special precautions and tools, and should therefore be done by an authorized Honda dealer.

⚠WARNING

- **To avoid rendering the SRS inoperative, which could lead to personal injury or death in the event of a severe frontal collision, all SRS service work must be performed by an authorized Honda dealer.**
- **Improper service procedures, including incorrect removal and installation of the SRS, could lead to personal injury caused by unintentional activation of the airbag(s).**
- **Do not bump the SRS unit. Otherwise, the system may fail in case of a collision, or the airbags may deploy when the ignition switch is ON (II) (SRS Type III).**
- **All SRS electrical wiring harnesses are covered with yellow insulation. Related components are located in the steering column, front console, dashboard, dashboard lower panel, and, in case of some models, in the dashboard above the glove box. Do not use electrical test equipment on these circuits.**
- **Service work nearby and in the areas listed below may affect the SRS and must therefore be performed by an authorized Honda dealer.**

SRS Type II:
- Steering wheel (Be careful not to bump the steering wheel as the SRS unit (sensors), inflator, etc. are located in it.)
- Behind the dashbord
- Under-dash fuse/relay box

SRS Type III:
- Steering wheel
- Behind the dashboard
- Under-dash fuse/relay box
- Front console
- Car stereo unit and other accessories
- A/C heater

Electrical

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*Shift Lever Position Indicator
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Ceiling/Trunk/Cargo Area Lights
  Circuit Diagram 23-38
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  Circuit Diagram 23-39
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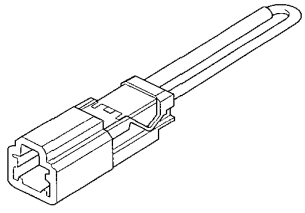
*Read the SRS precautions in the Shop Manuals 62SR300 and 62SR321, then install the short connector(s) on the airbag(s) before working in these areas.

Outline of Model Changes

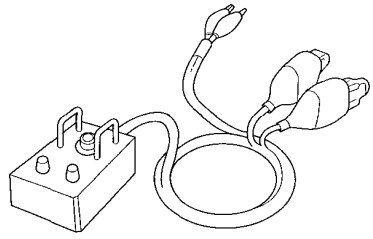
- **Starting System:** A clutch interlock switch has been added.
- **Ignition System:** The spark plug and service check connector specifications have been changed, and the KM model has been added.
- **Interlock System:** The wire colors have been changed, and a parking pin switch has been adopted for the KB and KM models.
- **Shift Lever Position Indicator:** The circuit diagrams have been changed.
- **Integrated Control Unit:** The wire colors have been changed, and the KM model has been added.
- **Ceiling/Trunk/Cargo Area Lights:** The wire colors have been changed.
- **Horn:** The circuit diagrams have been changed.
- **Cruise Control:** The cruise control system has been changed, and the KM model has been added.
- Items related to above-shown changes have been rewritten, and modifications to the ABS and SRS have been reflected in Relay and Control Unit Locations, Power Distribution, Ground Distribution, and Fuses.

Special Tools

Ref. No.	Tool Number	Description	Qty	Remark
①	07PAZ-0010100	SCS Short Connector	1	
②	07HAZ-SG00500	Deployment Tool	1	
③	07MAZ-SP00100	SRS Short Connector A	1	
④	07MAZ-SP00500	Test Harness B	1	
⑤	07LAZ-SL40300	Test Harness C	1	
⑥	07QAZ-SR30100	Jumper Wire Harness	1	



①



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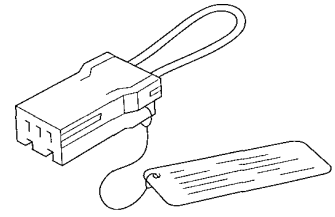

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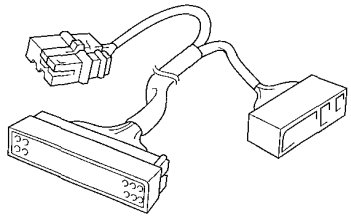

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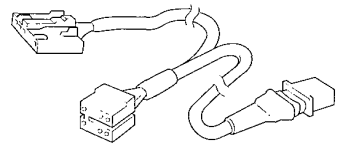

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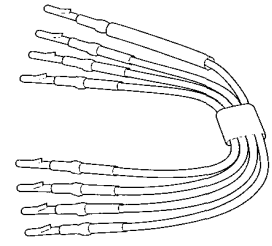
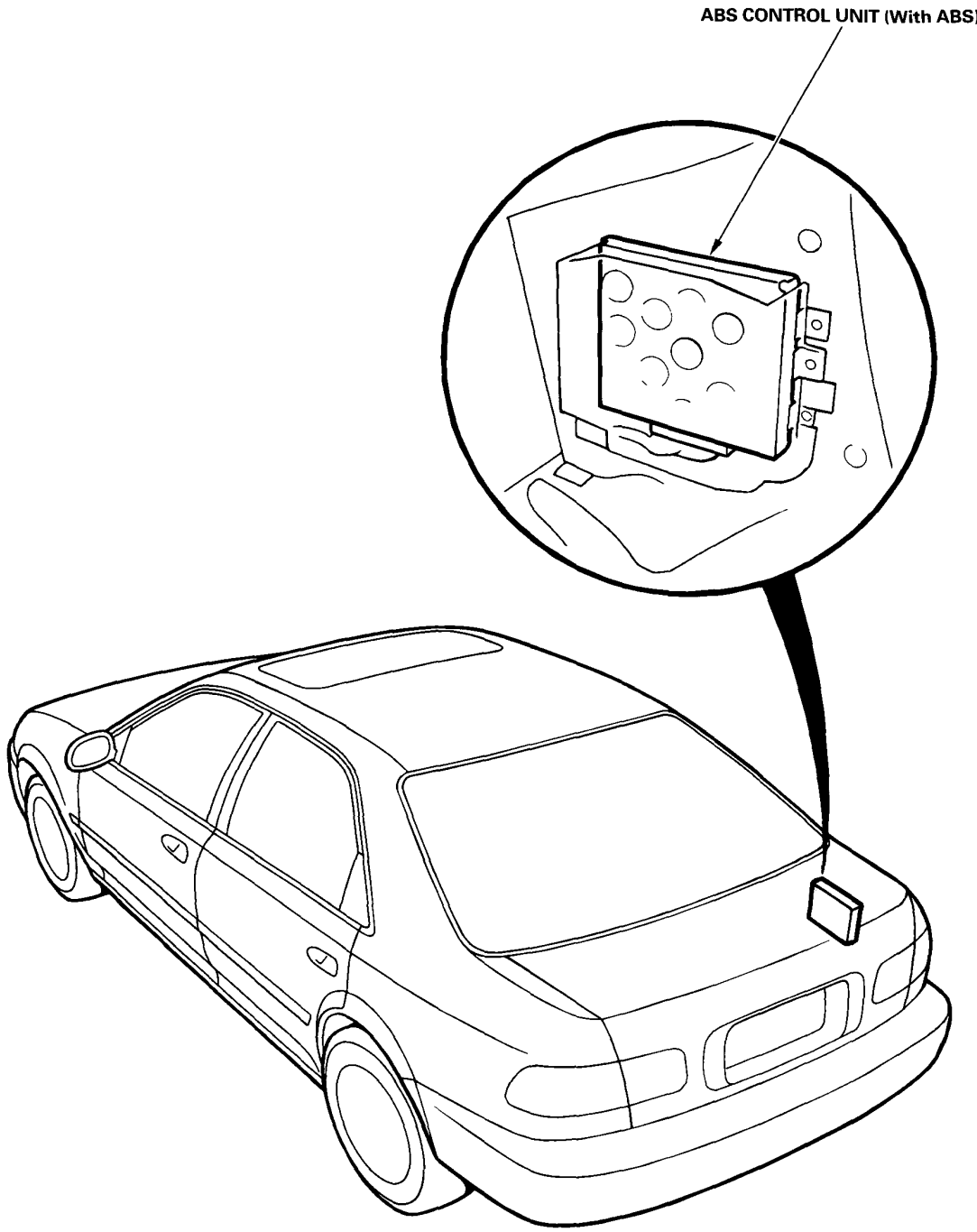


⑥

Relay and Control Unit Locations

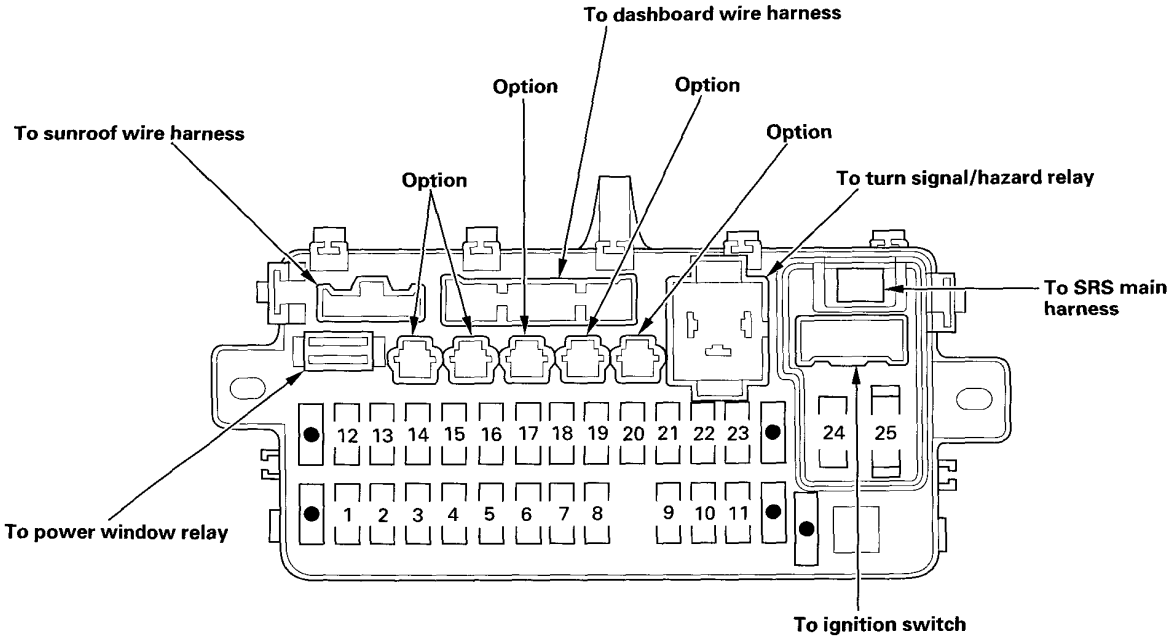
Trunk (Sedan)



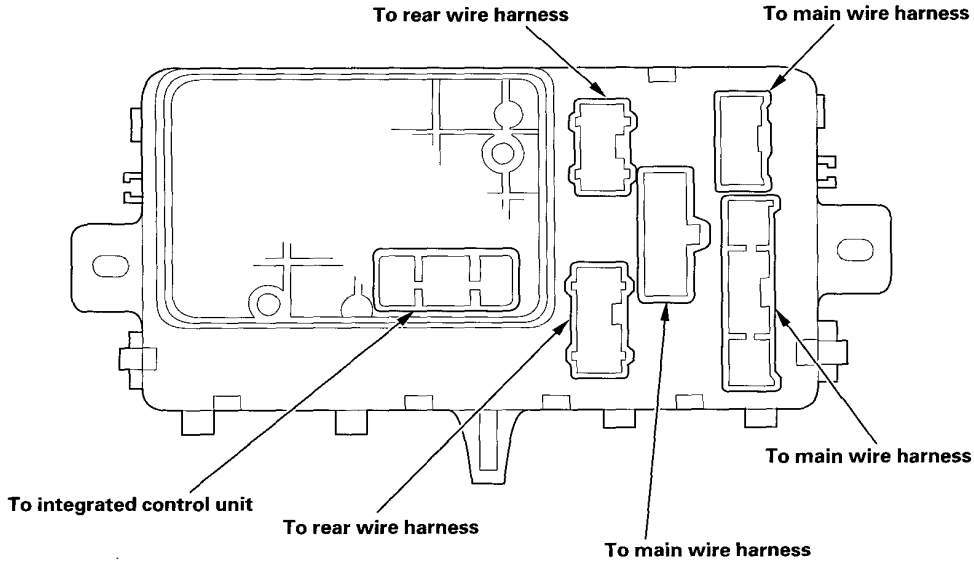
Fuses

Under-dash Fuse/ Relay Box

● : Spare fuse



NOTE:
View from back side of the under-dash fuse/relay box.


To rear wire harness
To main wire harness
To main wire harness
To integrated control unit
To rear wire harness
To main wire harness

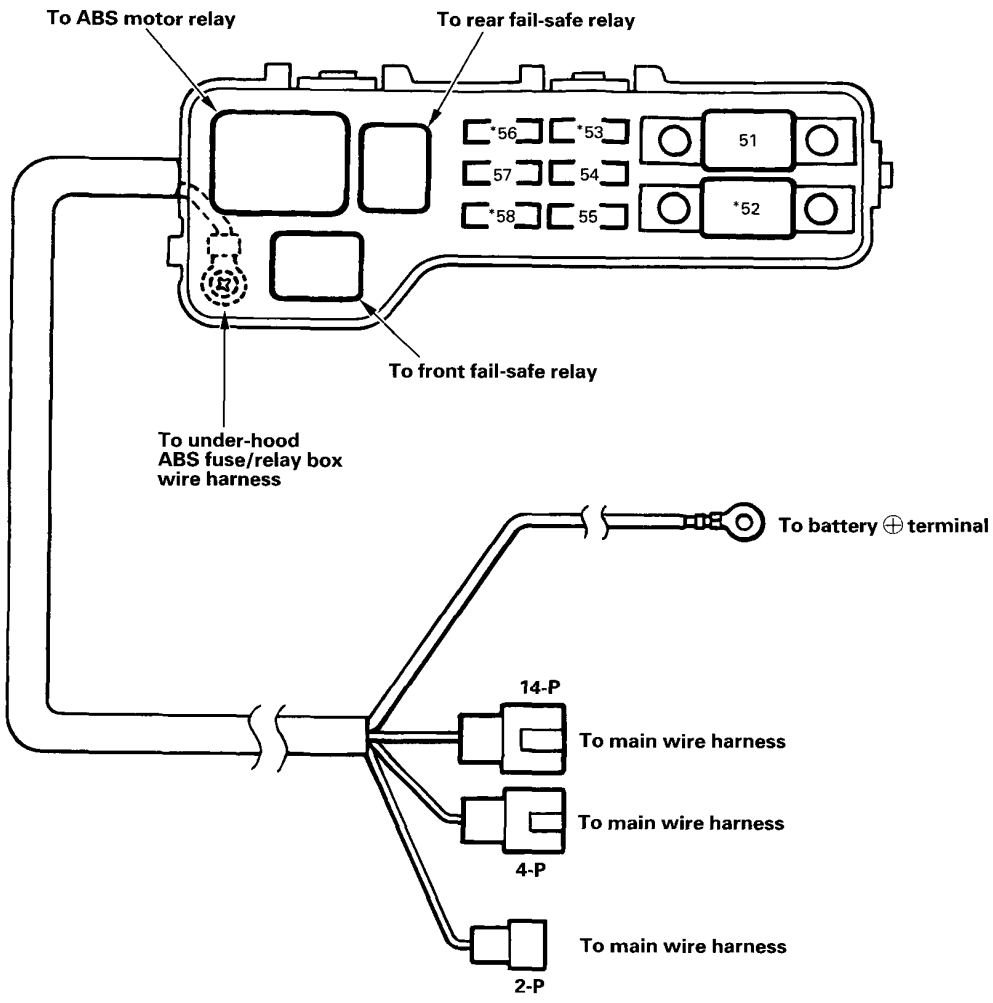
Fuse Number	Amps	Wire Color	Component(s) or Circuit(s) Protected
1	30A	WHT	Sunroof motor
2	20A	WHT/BLK	Seat heater (Some model versions of KG and KS)
3	7.5A	WHT/RED	Ceiling light, Data link connector, Trunk/cargo area light
4	20A	YEL/BLK	Right rear power window motor
5	20A	WHT/YEL	Driver's power window motor, Power window master switch
6	20A	WHT/GRN	Power door lock control unit
7	20A	GRN/BLK	Left rear power window motor
8	20A	BLU/BLK	Front passenger's power window motor
9	10A	RED/BLU	Right headlight (HIGH), Integrated control unit (KE, KS)
10	10A	RED/GRN	Left headlight (HIGH), High beam indicator light
11	20A	WHT/BLK	Headlight washer control unit (Some model versions of KG and KS)
12	15A	BLK/YEL	Alternator (Without SRS)
13	7.5A	BLK/YEL	Rear window defogger relay, ABS relays
14	20A	GRN/BLK	Windshield wiper motor, Sunroof relays
15	10A	YEL	Gauge and indicator lights, Clock
16	7.5A	YEL/BLK	Integrated control unit (KS)
17	10A	RED/BLU RED/BLU (KS) RED/BLK (KS) WHT/YEL (KE)	• Left taillight, Option (KF, KG) • Taillights, Front parking light (KS) • Integrated control unit (KE) • Option (General exports)
18	7.5A	BLU/WHT	PGM-FI ECU, PGM-FI main relay
19	10A	RED/BLK	Dash lights, Taillights, Front parking lights (Except KS)
20	7.5A	RED/WHT	Rear fog light (European models)
21	10A	RED/WHT	Right headlight (LOW)
22	10A	RED/YEL	Left headlight (LOW)
23	15A	YEL/RED	Radio/cassette player
*24	15A	BLK/YEL	Alternator, SRS indicator light
		RED (or GRY)	Type III SRS unit (VA)
*25	10A	RED	Type II SRS unit (VA)
		PNK (or GRY)	Type III SRS unit (VB)

* : With SRS

Fuses

Under-hood ABS Fuse/ Relay Box

* : Not used

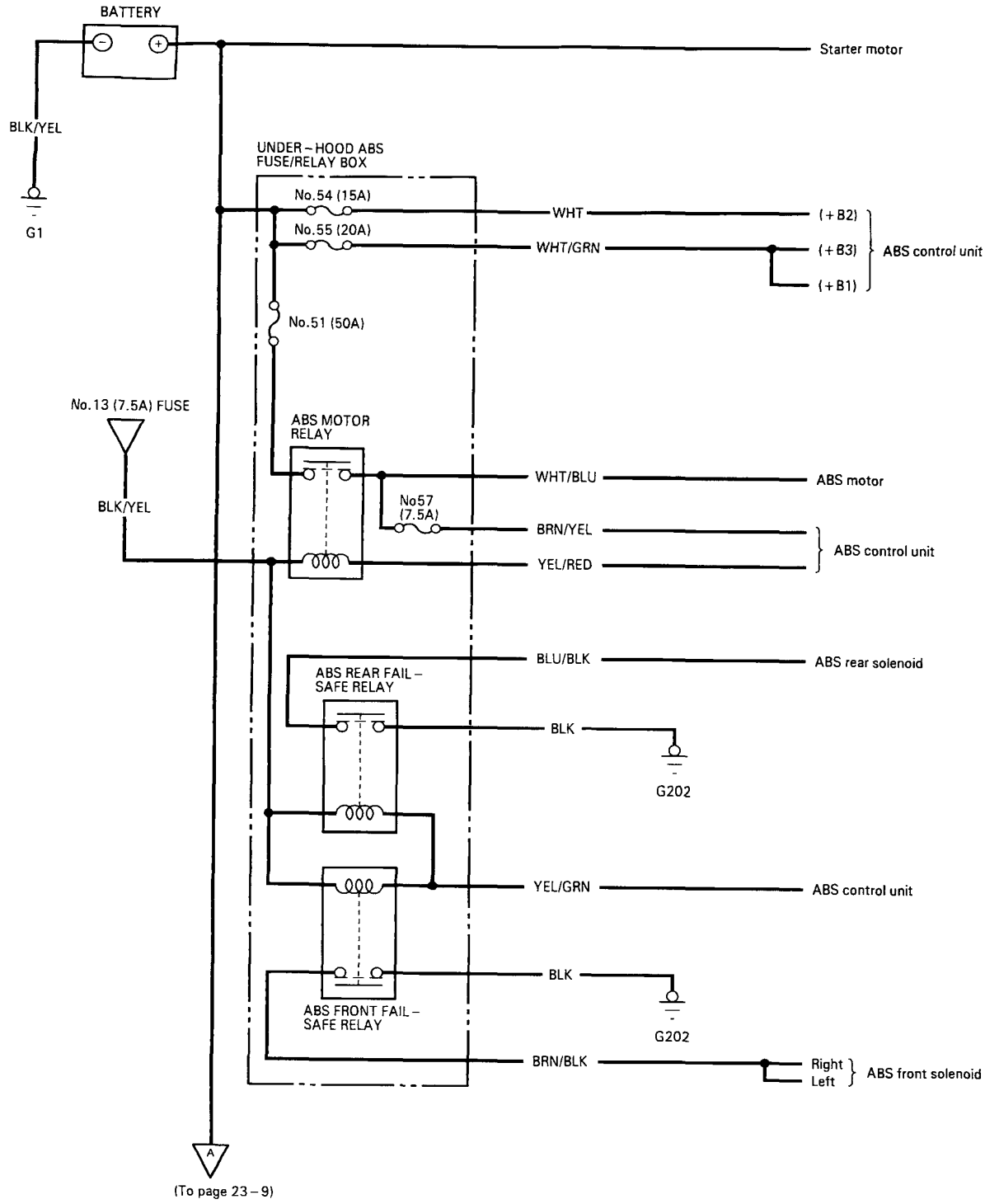


Fuse Number	Amps	Wire color	Component(s) or Circuit(s) Protected
51	50A	WHT/BLU	ABS motor (Via ABS motor relay)
52	———	———	Not used
53	———	———	Not used
54	15A	WHT	ABS control unit (+B2)
55	20A	WHT/GRN	ABS control unit (+B1, +B3)
56	———	———	Not used
57	7.5A	BRN/YEL	ABS control unit
58	———	———	Not used

Power Distribution

Circuit Identification

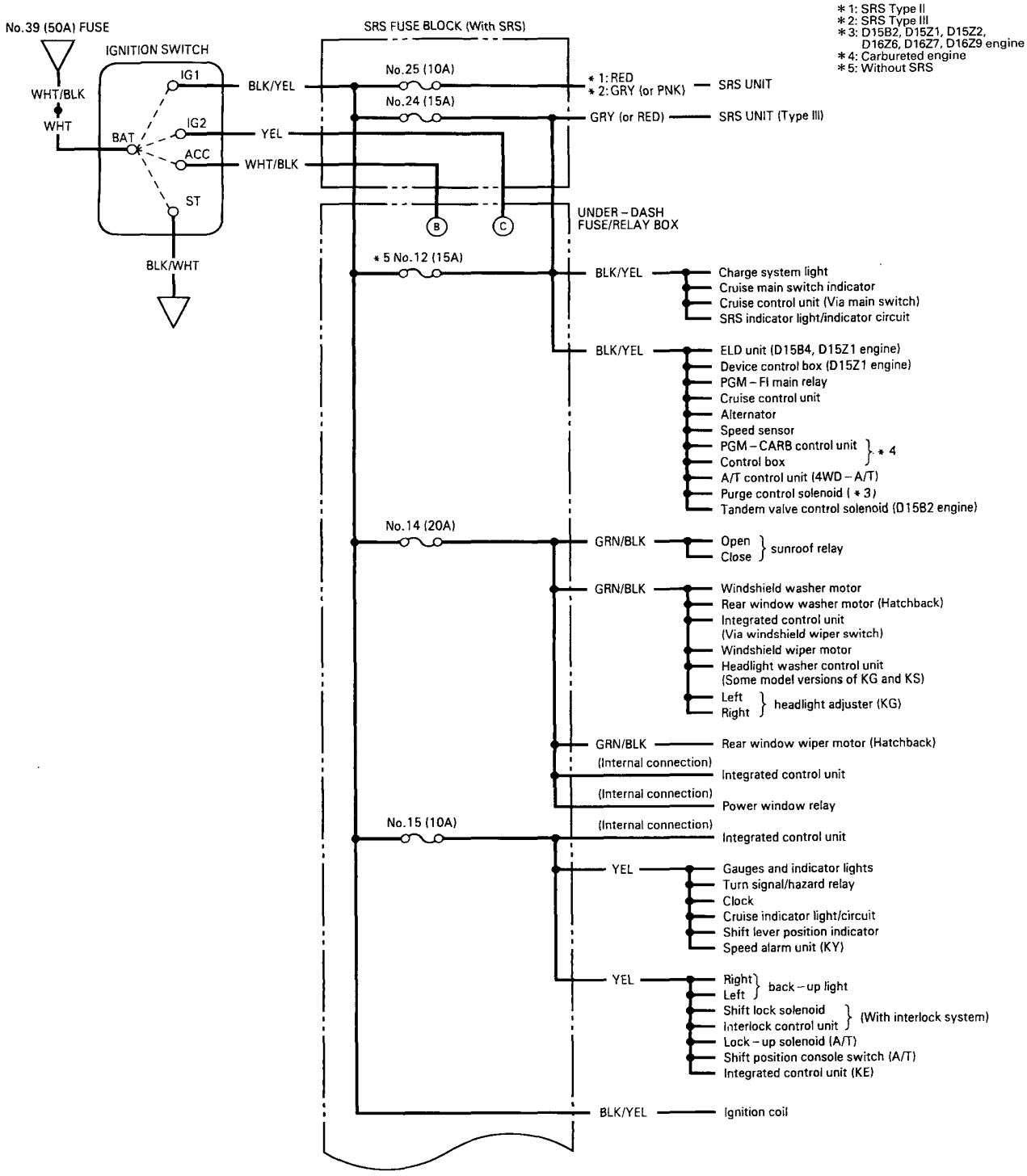
NOTE:
This page corresponds to page 23-8 of the Shop Manual 62SR320 and reflects the model changes.



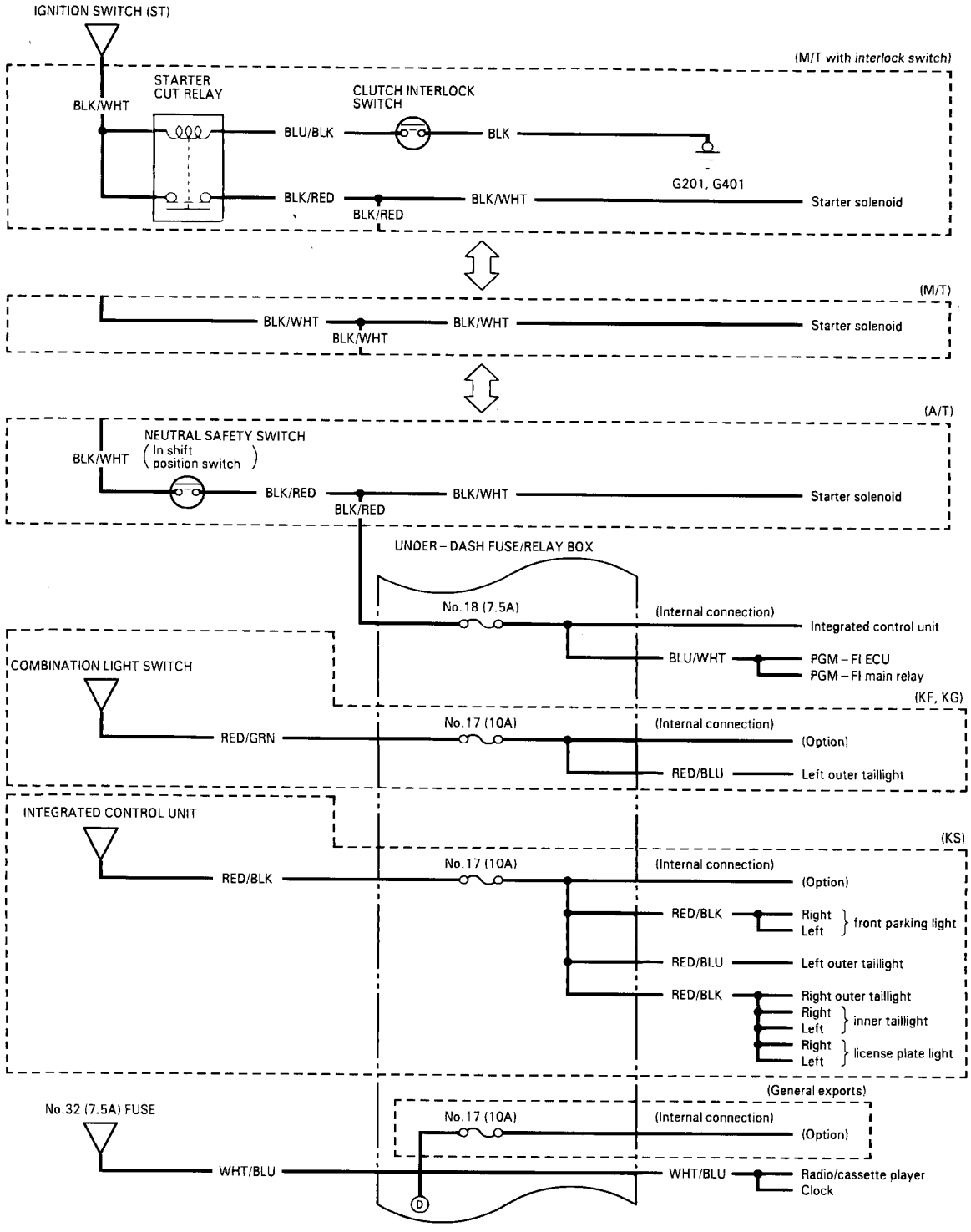
Power Distribution

Circuit Identification (cont'd)

NOTE:
This page corresponds to page 23-17 of the Shop Manual 62SR320 and reflects the model changes.



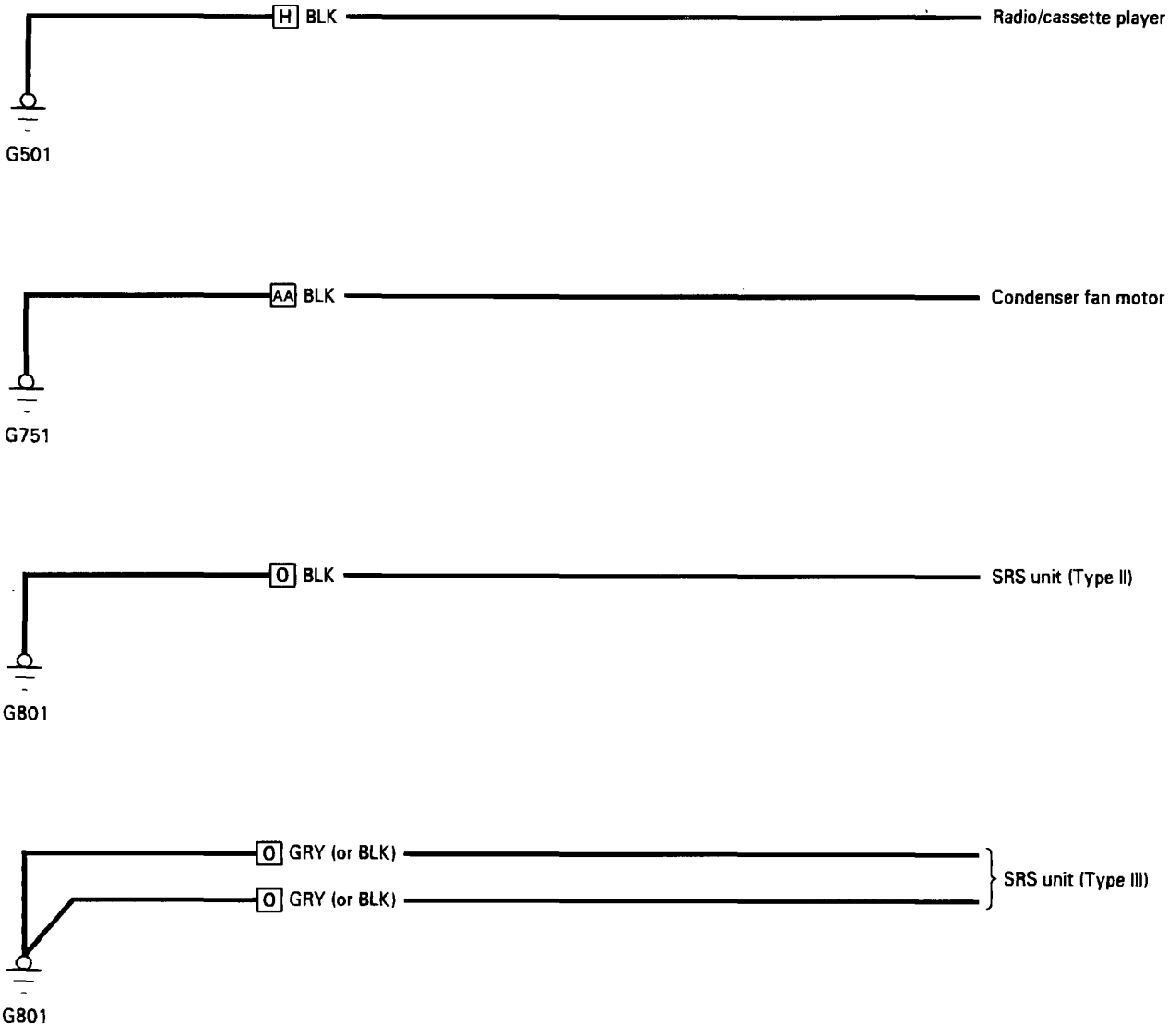
NOTE:
This page corresponds to page 23-19 of the Shop Manual 62SR320 and reflects the model changes.



Ground Distribution

Circuit Identification

NOTE:
This page corresponds to page 23-34 of the Shop Manual 62SR320 and reflects the model changes.



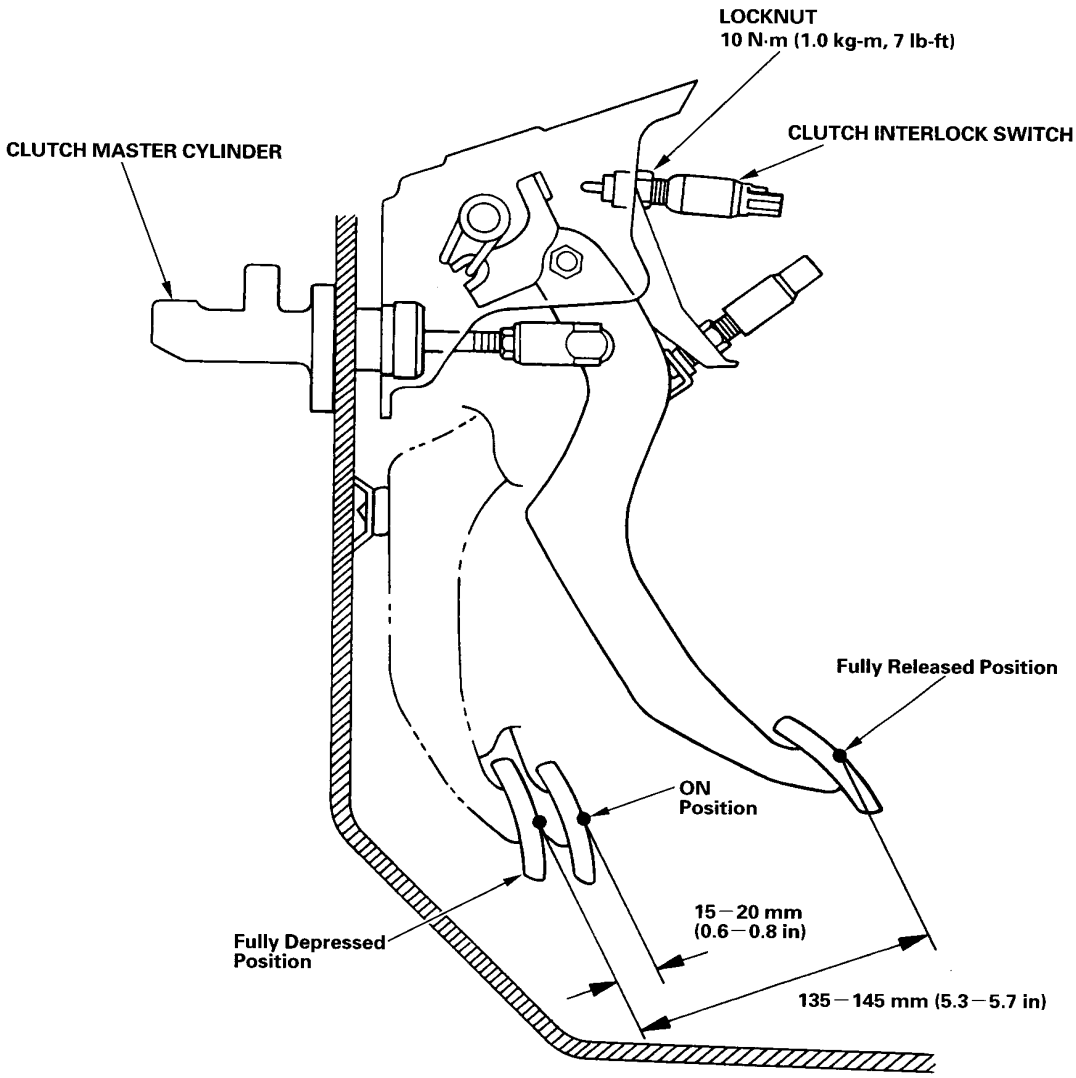
H : Dashboard wire harness
O : SRS unit sub – harness (Type II)
O : SRS main harness (Type III)
AA : A/C wire harness

Description (M/T with Interlock Switch)

Starter Interlock System (M/T):
The starter interlock system prevents the engine from starting unless the clutch pedal is fully depressed.

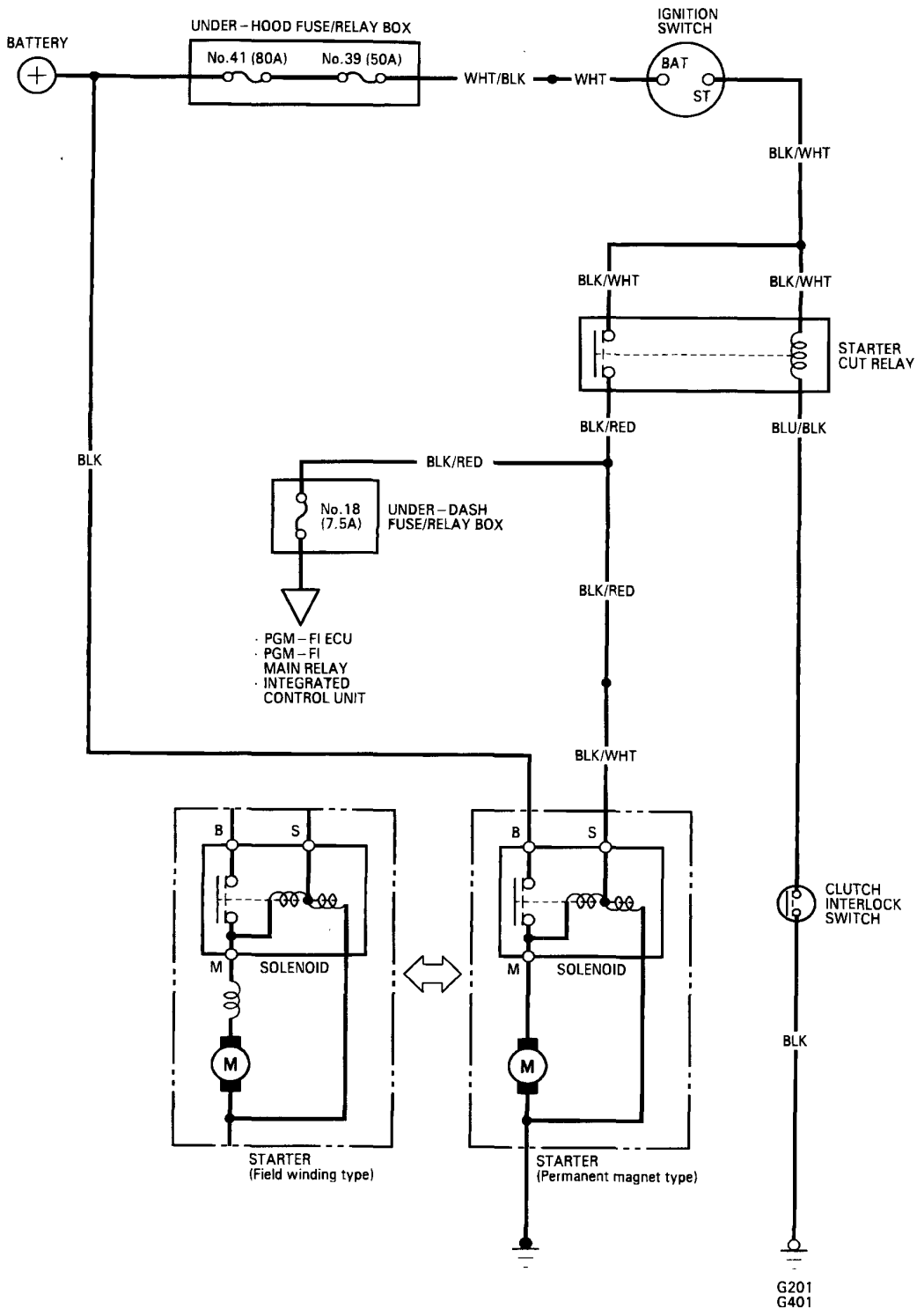
The clutch interlock switch turns on at the position where the clutch disengages: 15—20 mm (0.6—0.8 in) from the fully depressed position.

NOTE:
A full stroke of the clutch pedal is 135—145 mm (5.3—5.7 in) from the fully released position.



Starting System

Circuit Diagram (M/T with Interlock Switch)

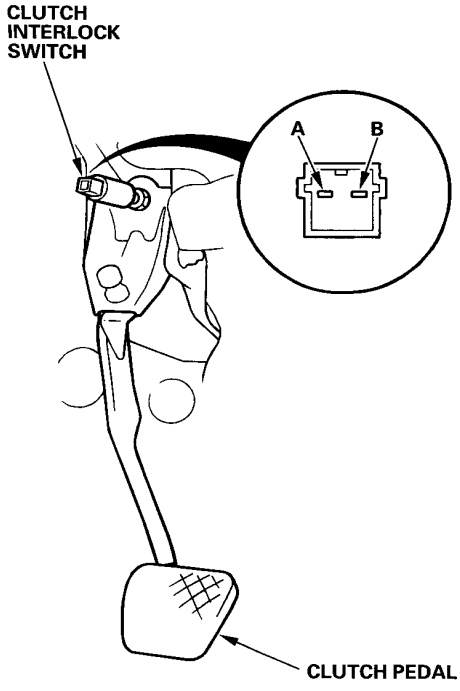


Clutch Interlock Switch Test (M/T with Interlock Switch)

1. Remove the dashboard lower cover and knee bolster, then disconnect the 2-P connector from the switch.

2. Check for continuity between the terminals according to the table.

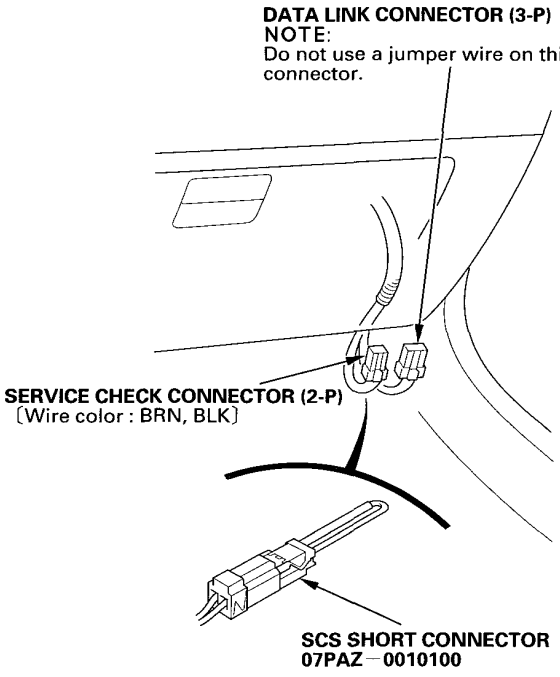
Terminal / Clutch Pedal	A	B
RELEASED		
PUSHED	○	○



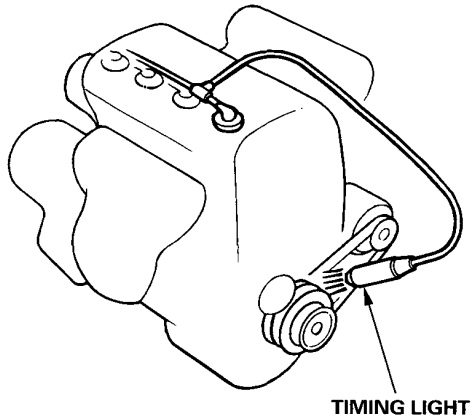
3. If necessary, replace the switch or adjust the switch position (see section 12 of the Shop Manual 62SR 300).

Ignition Timing Inspection and Setting (KM)

1. Start the engine and allow it to warm up (the radiator fan comes on).
2. Connect the SCS short connector to the service check connector as shown (the 2-P service check connector is located under the dashboard on the passenger side of the car).



3. Connect a timing light to the No. 1 plug wire, and point it toward the pointer on the timing belt cover.

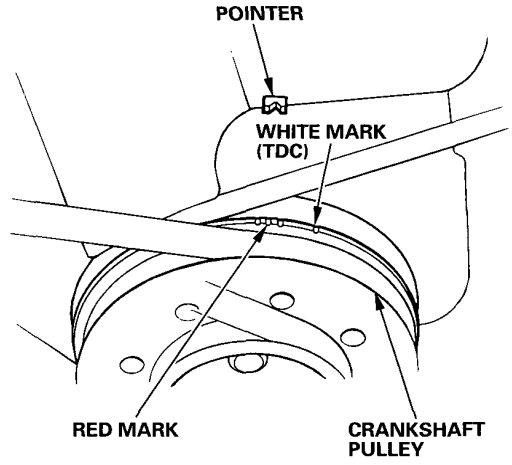


4. Adjust ignition timing, if necessary, to the following specifications:

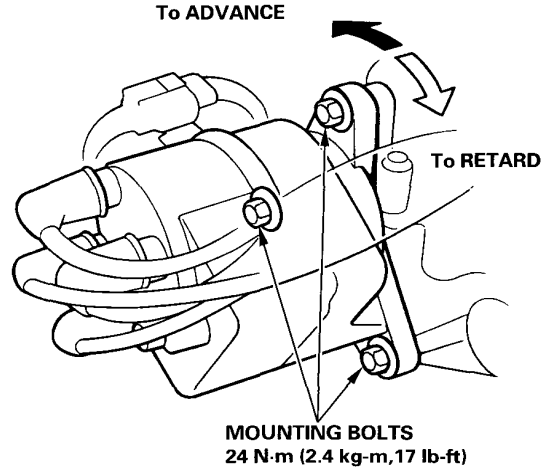
Ignition Timing:

D15B7/D16Z6/B16A3 engine:
16° ± 2° BTDC (RED) at idle speed

NOTE:
- The shift lever is in the neutral position.
- All electrical systems are turned OFF.



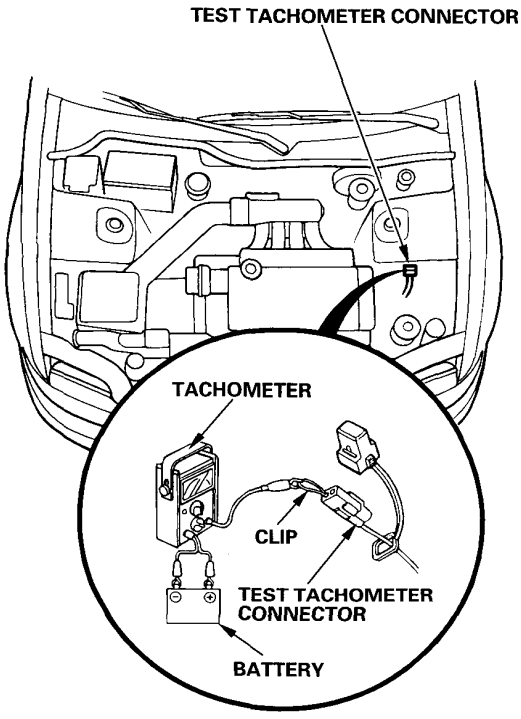
5. If it is necessary to adjust the ignition timing, loosen the distributor mounting bolts, and turn the distributor housing counterclockwise to advance the timing, or clockwise to retard the timing.



6. Tighten the adjusting bolts, and recheck the timing.
7. Remove the SCS short connector from the service check connector.

Idle Speed Inspection (KM)

1. Start the engine, and allow it to warm up (the radiator fan comes on).
2. Connect a tachometer to the test tachometer connector.



Idle Speed (rpm):

D15B7/D16Z6 engine:

(M/T): 670 ± 50 rpm
(A/T): 700 ± 50 rpm

B16A3 engine:

(M/T): 700 ± 50 rpm

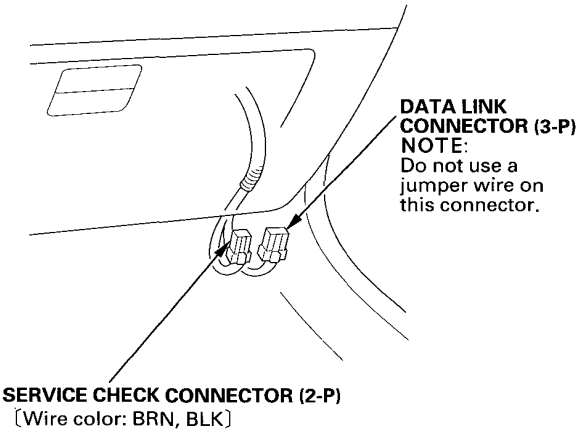
NOTE:
- The shift lever is in the neutral position.
- All electrical systems are turned OFF.

3. Adjust the idle speed if necessary (see section 11 of the Shop Manual 62SR300).

Ignition Timing Inspection and Setting (D13B2 engine)

For the ignition timing inspection and setting of the carbureted engine, refer to page 23−102 of the Shop Manual 62SR300.

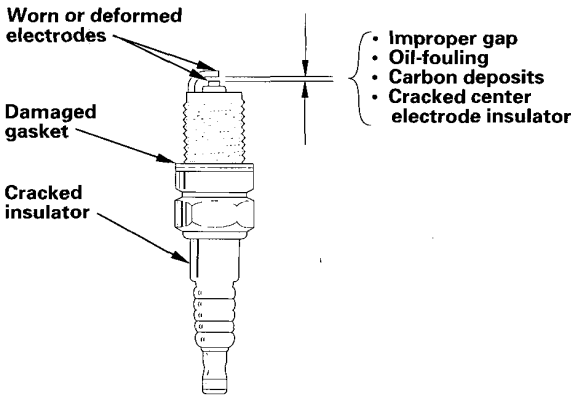
NOTE:
The service check connector of the D13B2 engine (carbureted engine) is to be used only for SRS troubleshooting.



Ignition System

Spark Plug Inspection (KM)

1. Inspect the electrodes and ceramic insulator for:



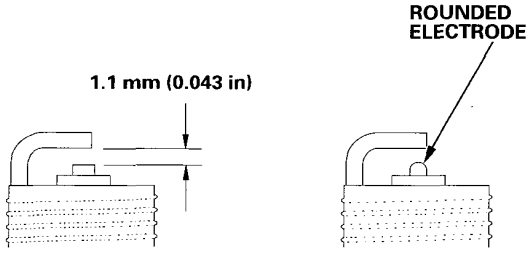
Burned or worn electrodes may be caused by:
- Advanced ignition timing
- Loose spark plug
- Plug heat range too low
- Insufficient cooling

Fouled plug may be caused by:
- Retarded ignition timing
- Oil in combustion chamber
- Incorrect spark plug gap
- Plug heat range too high
- Excessive idling/low speed running
- Clogged air cleaner element
- Deteriorated ignition coil or ignition wires

2. D15B7/D16Z6 engine:
   - Adjust the gap with a suitable gapping tool, and replace the plug if the center electrode is rounded as shown below.

Electrode Gap:

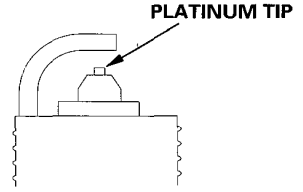
Standard	1.1 $^{0}_{-0.1}$ mm (0.043 $^{0}_{-0.004}$ in)



3. B16A3 engine:
   - Do not adjust the gap of a platinum tip plug; replace the spark plug if the center electrode is rounded or the gap is not within the specification.

Electrode Gap:

Standard	1.3 $^{0}_{-0.1}$ mm (0.051 $^{0}_{-0.004}$ in)



NOTE:
Use only the spark plugs listed below.

Spark Plug:

D15B7 engine

ZFR5F-11 (NGK) KJ16CR-L11 (Nippondenso)	For all normal driving
ZFR6F-11 (NGK) KJ20CR-L11 (Nippondenso)	For hot climates or continuous high speed driving

D16Z6 engine

ZFR5J-11 (NGK) KJ16CR-L11 (Nippondenso)	For all normal driving
ZFR6J-11 (NGK) KJ20CR-L11 (Nippondenso)	For hot climates or continuous high speed driving

B16A3 engine

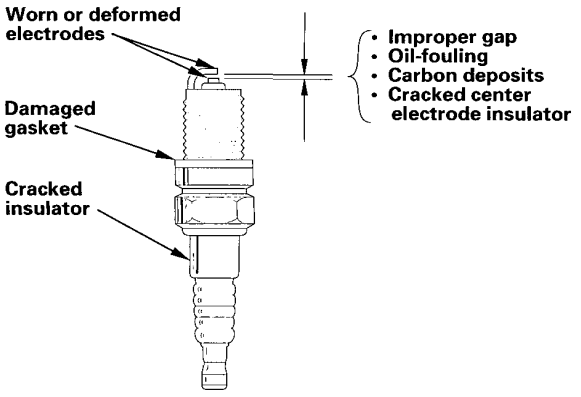
PFR6L-13 (NGK) PK20PR-L13 (Nippondenso)	For all normal driving

4. Apply a small quantity of anti-seize compound to the plug threads before installing the plugs.

5. Screw the plugs into the cylinder head finger-tight, then torque them to 18 N·m (1.8 kg-m, 13 lb-ft).

Spark Plug Inspection (Except KM)

1. Inspect the electrodes and ceramic insulator for:



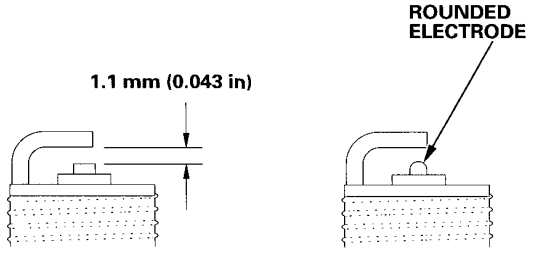
Burned or worn electrodes may be caused by:
- Advanced ignition timing
- Loose spark plug
- Plug heat range too low
- Insufficient cooling

Fouled plug may be caused by:
- Retarded ignition timing
- Oil in combustion chamber
- Incorrect spark plug gap
- Plug heat range too high
- Excessive idling/low speed running
- Clogged air cleaner element
- Deteriorated ignition coil or ignition wires

2. Adjust the gap with a suitable gapping tool, and replace the plug if the center electrode is rounded as shown below.

Electrode Gap:

Standard	1.1 $^{0}_{-0.1}$ mm (0.043 $^{0}_{-0.004}$ in)



Spark Plug:

D12B1/D13B3 engine

BKR5E-11(NGK) K16PR-U11 (Nippondenso)	For all normal driving
BKR6E-11(NGK) K20PR-U11 (Nippondenso)	For hot climates or continuous high speed driving

D13B2/D15B2/D15B3/D15Z2/ D16A7/D16Z6/D16Z7/D16Z9/D16Y1 engine

BKR6E-11(NGK) K20PR-U11 (Nippondenso)	For all normal driving
BKR7E-11(NGK) K22PR-U11 (Nippondenso)	For hot climates or continuous high speed driving

D15B7 (except KE, KG)/D15Z1 engine

ZFR5F-11(NGK) KJ16CR-L11 (Nippondenso)	For all normal driving
ZFR6F-11(NGK) KJ20CR-L11 (Nippondenso)	For hot climates or continuous high speed driving

D16A9/B16A2 engine

BKR6E-N11(NGK) K20PR-L11 (Nippondenso)	For all normal driving
BKR7E-N11(NGK) K22PR-L11 (Nippondenso)	For hot climates or continuous high speed driving

D15B7 (KE, KG) engine

BKR5E-11(NGK) ZFR5F-11(NGK) K16PR-U11 (Nippondenso) KJ16CR-L11 (Nippondenso)	For all normal driving
BKR6E-11(NGK) ZFR6F-11(NGK) K20PR-U11 (Nippondenso) KJ20CR-L11 (Nippondenso)	For hot climates or continuous high speed driving

3. Apply a small quantity of anti-seize compound to the plug threads before installing the plugs.

4. Screw the plugs into the cylinder head finger-tight, then torque them to 18 N·m (1.8 kg-m, 13 lb-ft).

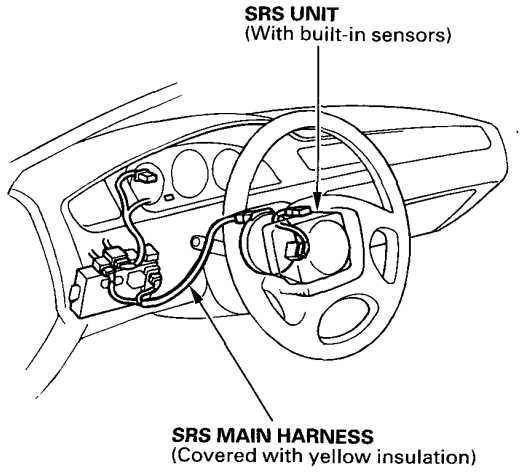
Interlock System

Component Location Index

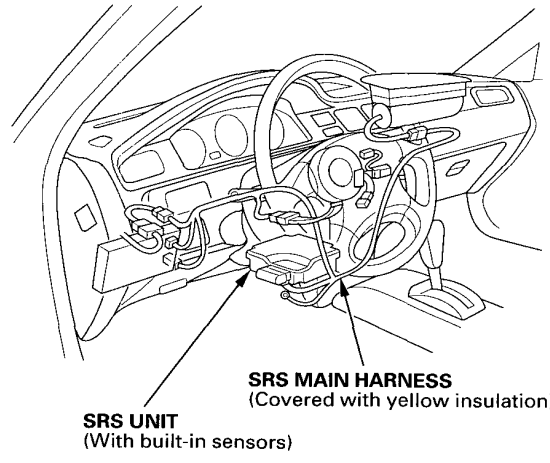
CAUTION:
- **All SRS wire harnesses are covered with yellow insulation.**
- **Replace the entire affected SRS harness assembly if it has an open circuit or damaged wiring.**
- **Before disconnecting the SRS wire harness, turn the ignition switch OFF, disconnect the battery negative cable, then disconnect the positive cable, and wait at least three minutes.**

SRS Type III only:
- **Whenever the ignition switch is ON (II), or has been turned OFF for less than three minutes, be careful not to bump the SRS unit; the airbags could accidentally deploy and cause damage or injuries.**
- **Before you disconnect any part of an SRS wire harness, connect the short connectors (RED) to the airbags.**
- **Refer to the additional precautions in the SRS sub-section (section 23).**

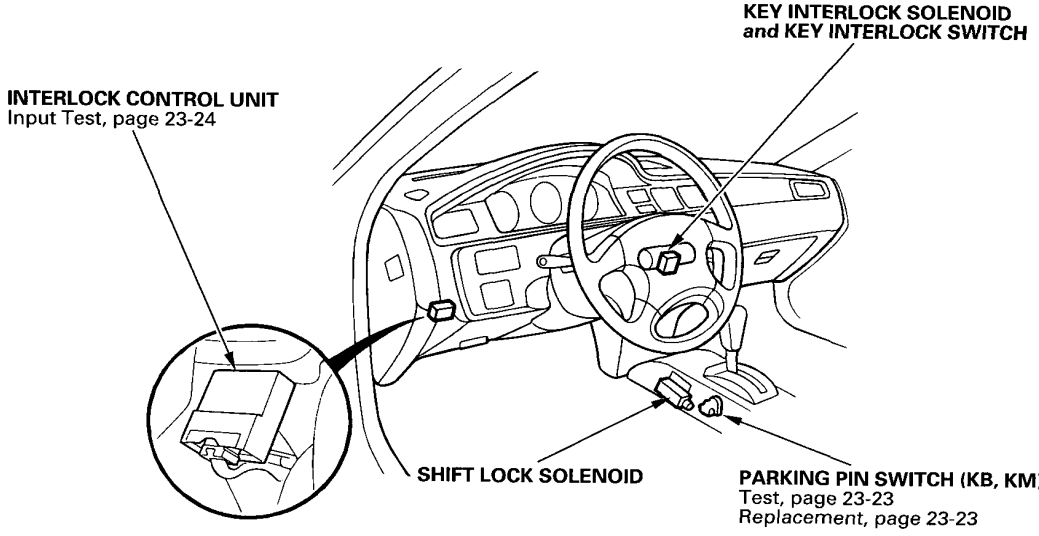
SRS Type II:



SRS Type III:



NOTE:
LHD type is shown, RHD type is symmetrical.

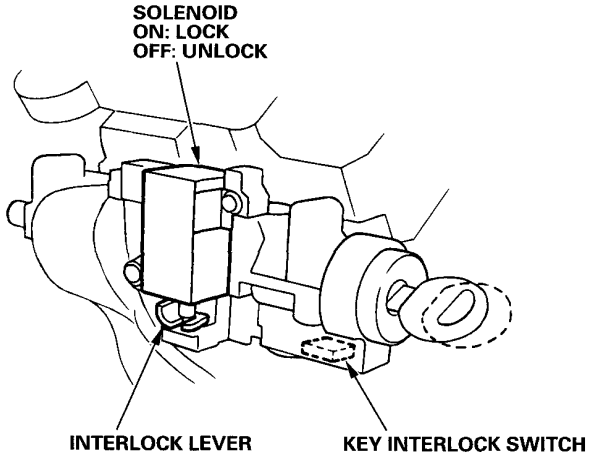


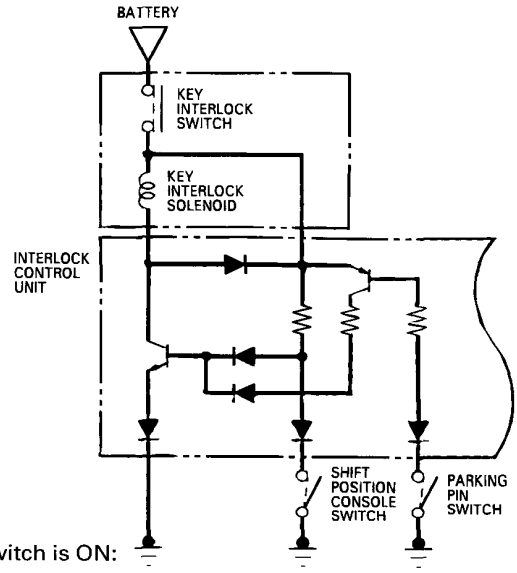
Description (KB, KM)

The car is equipped with the following devices to prevent inadvertent shifting:

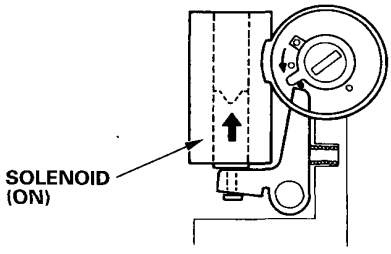
- Key cylinder with interlocked ignition key (Key Interlock System)
- Shift lever with shift lock (Shift Lock System)

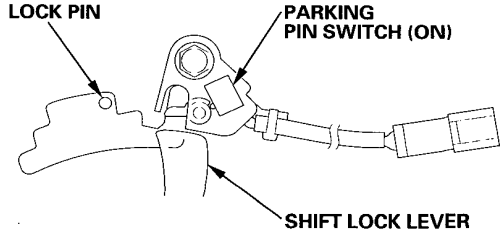
Key Interlock System:
When the shift lever is in any other position than [P] or is not securely locked in [P] (parking pin switch is ON), a solenoid is activated, making it impossible to remove the ignition key from the ignition switch.
To be able to remove the key, the shift lever must be in [P] and must be securely locked in this position (parking pin switch must be turned off by the lock pin).



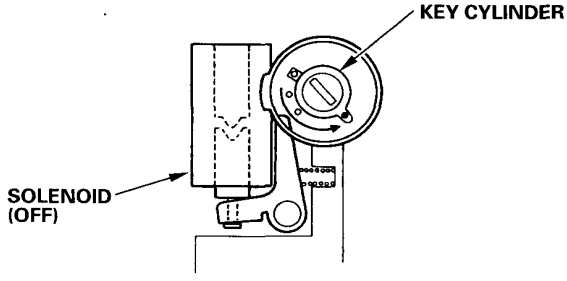


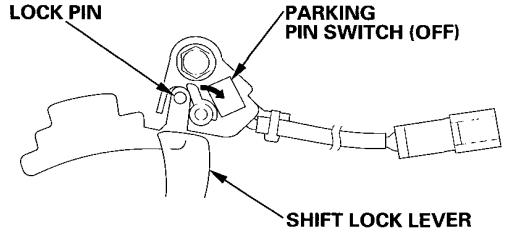
The shift lever is in any other position than [P] and the parking pin switch is ON:





The shift lever is in [P] and the parking pin switch is OFF:





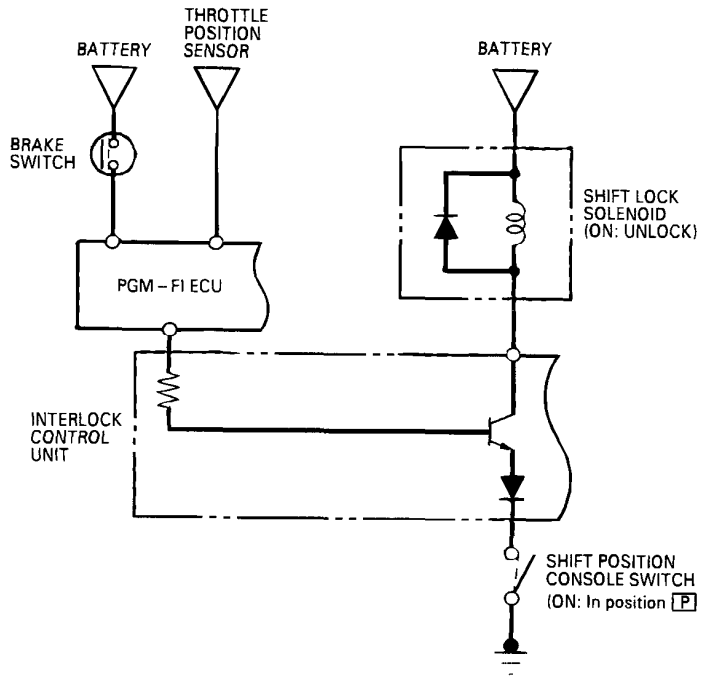
(cont'd)

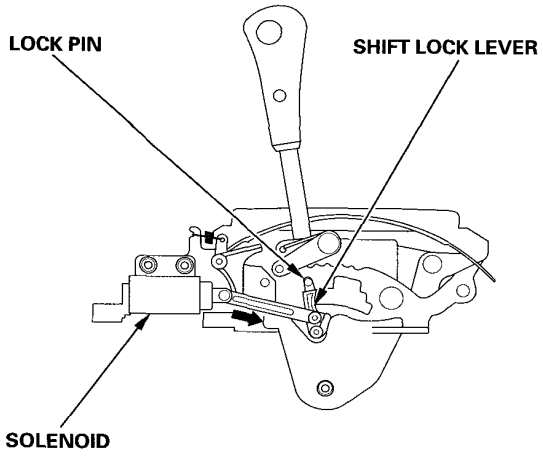
Interlock System

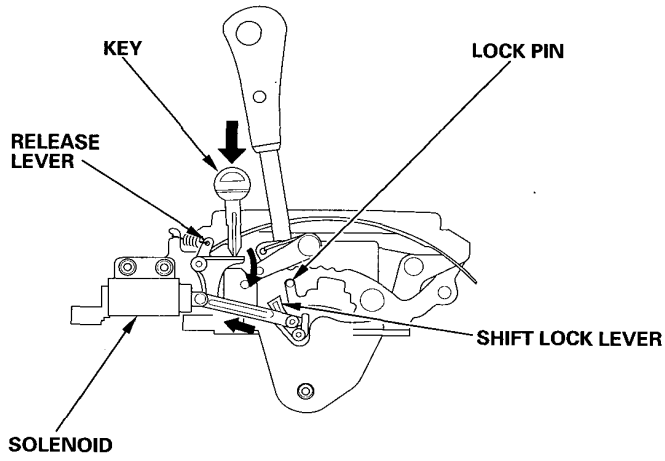
Description (KB, KM cont'd)

Shift Lock System:
The shift lock system prevents the shift lever from moving to [R] or [D] from position [P] unless you step on the brake pedal.

NOTE:
- The shift lever cannot be shifted when the brake pedal and the accelerator are depressed at the same time.
- In case of system malfunction, the shift lever can be released by pushing a key into the release slot near the shift lever.

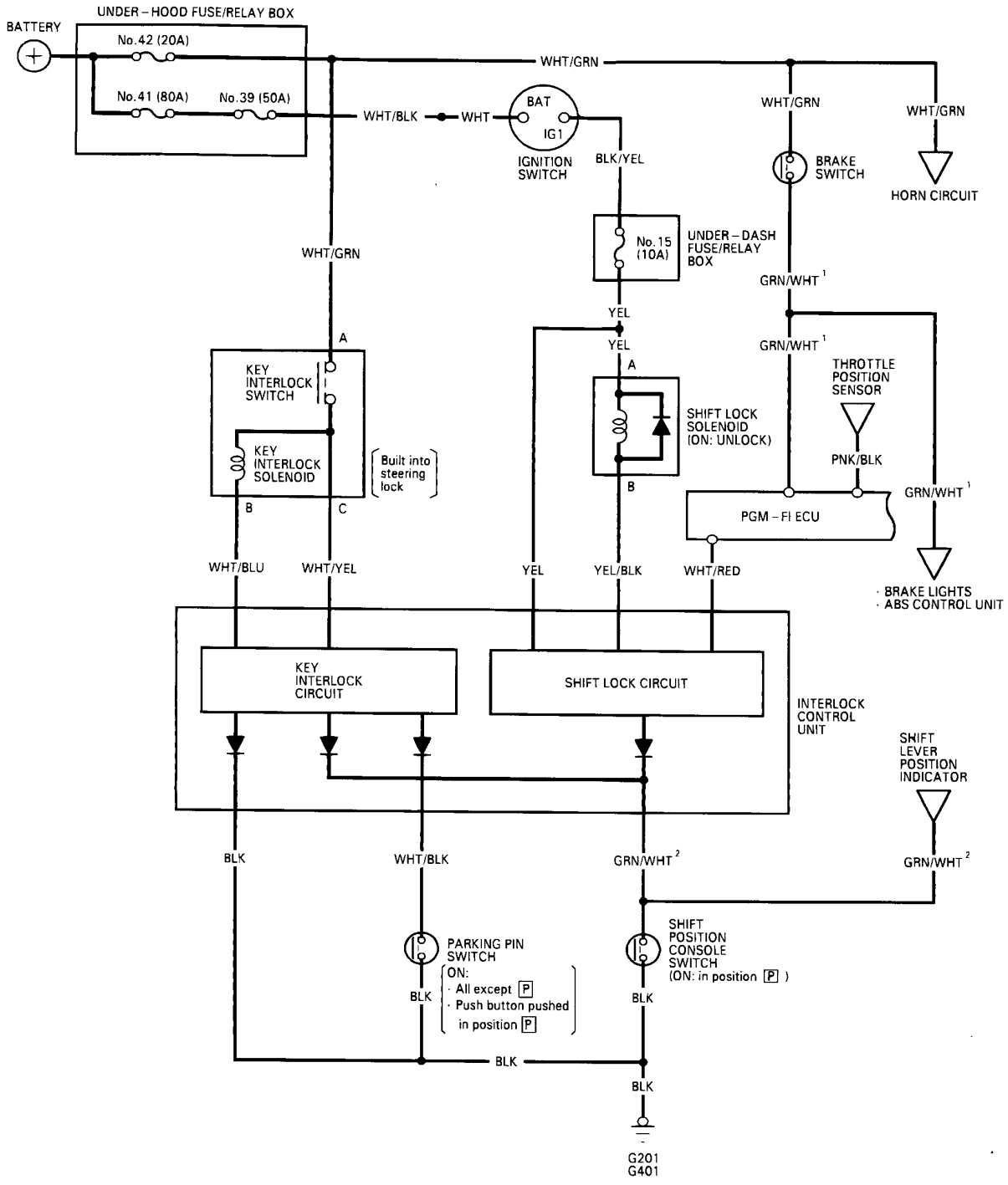






Circuit Diagram (KB, KM)

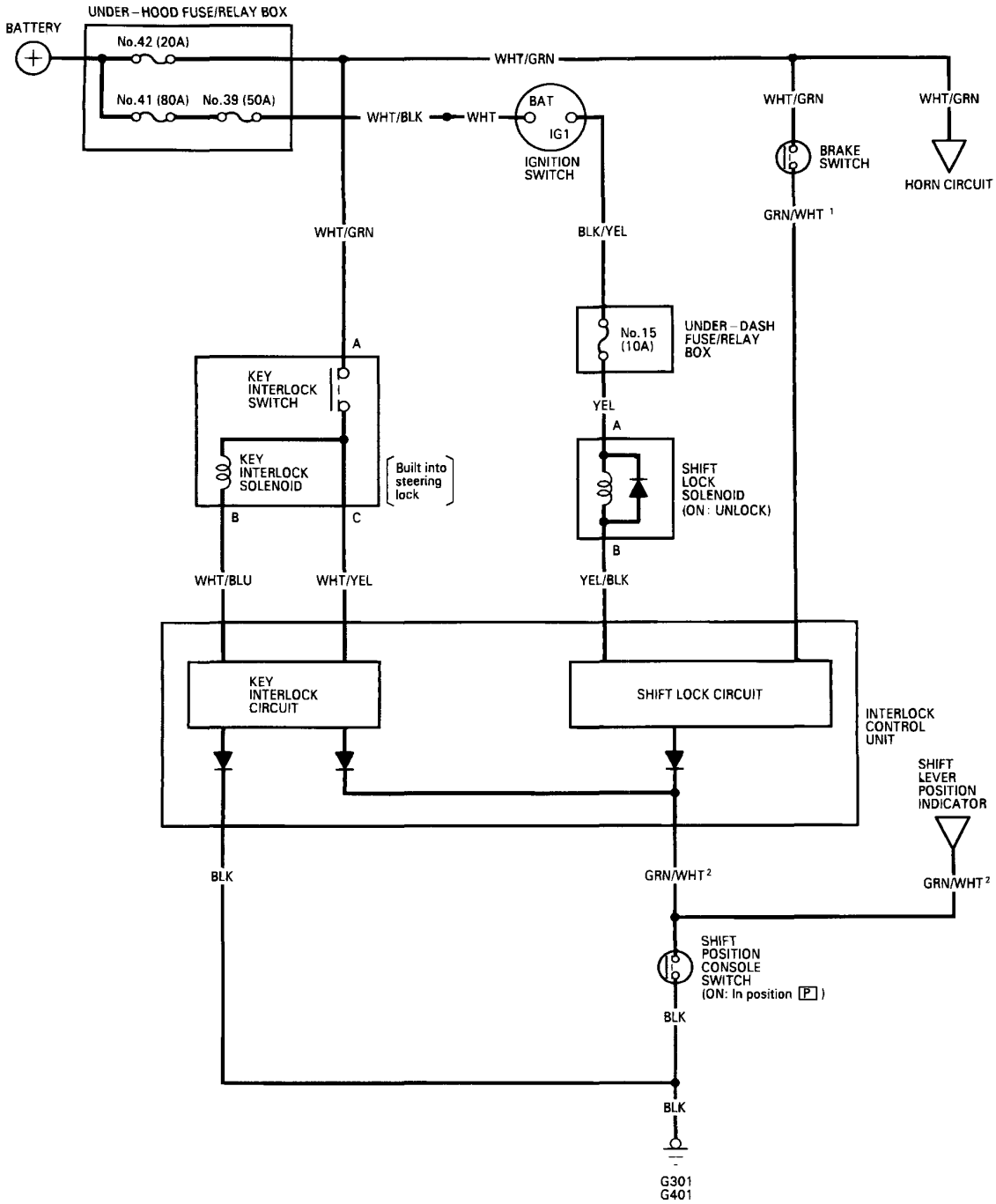
NOTE:
Different wires with the same color have been given a number suffix to distinguish them (for example, GRN/WHT[1] and GRN/WHT[2] are not the same).



Interlock System

Circuit Diagram (KQ)

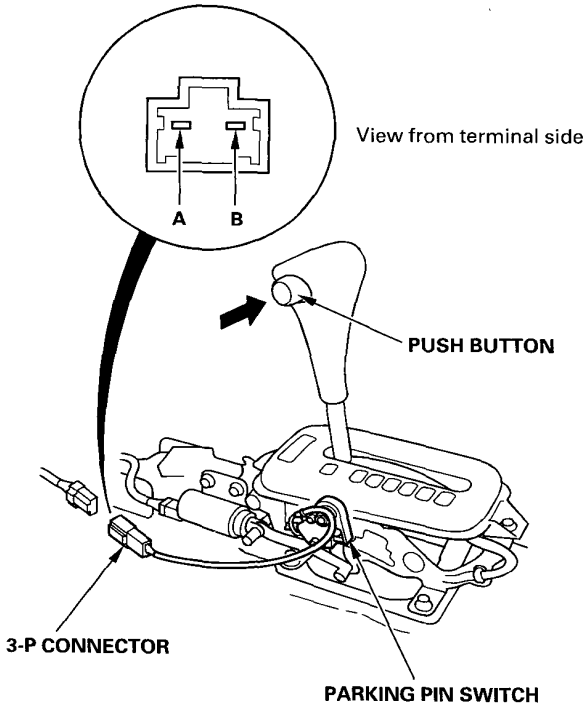
NOTE:
Different wires with the same color have been given a number suffix to distinguish them (for example, GRN/WHT[1] and GRN/WHT[2] are not the same).



Parking Pin Switch Test (KB, KM)

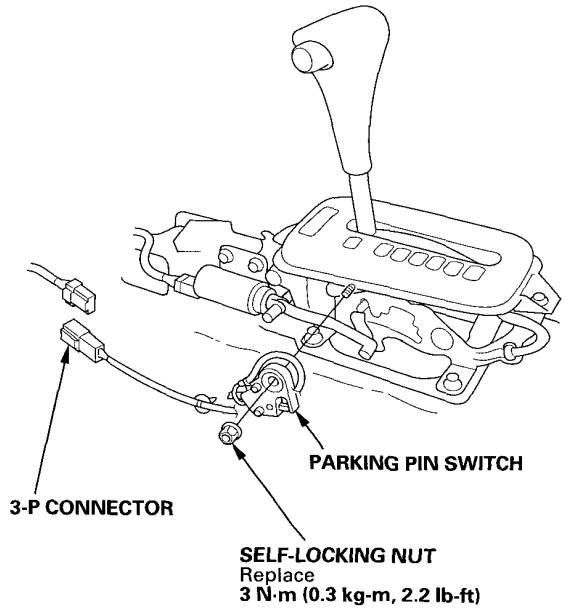
1. Remove the center console.
2. Disconnect the parking pin switch 3-P connector from the main wire harness.
3. Check for continuity between the terminals in each switch position according to the table.

Position		Terminal A	Terminal B
Shift lever in position P	Push button pushed	○	○
	Push button released		



Parking Pin Switch Replacement (KB, KM)

1. Remove the center console.
2. Disconnect the parking pin switch 3-P connector from the main wire harness.
3. Replace the self-locking nut and the parking pin switch.

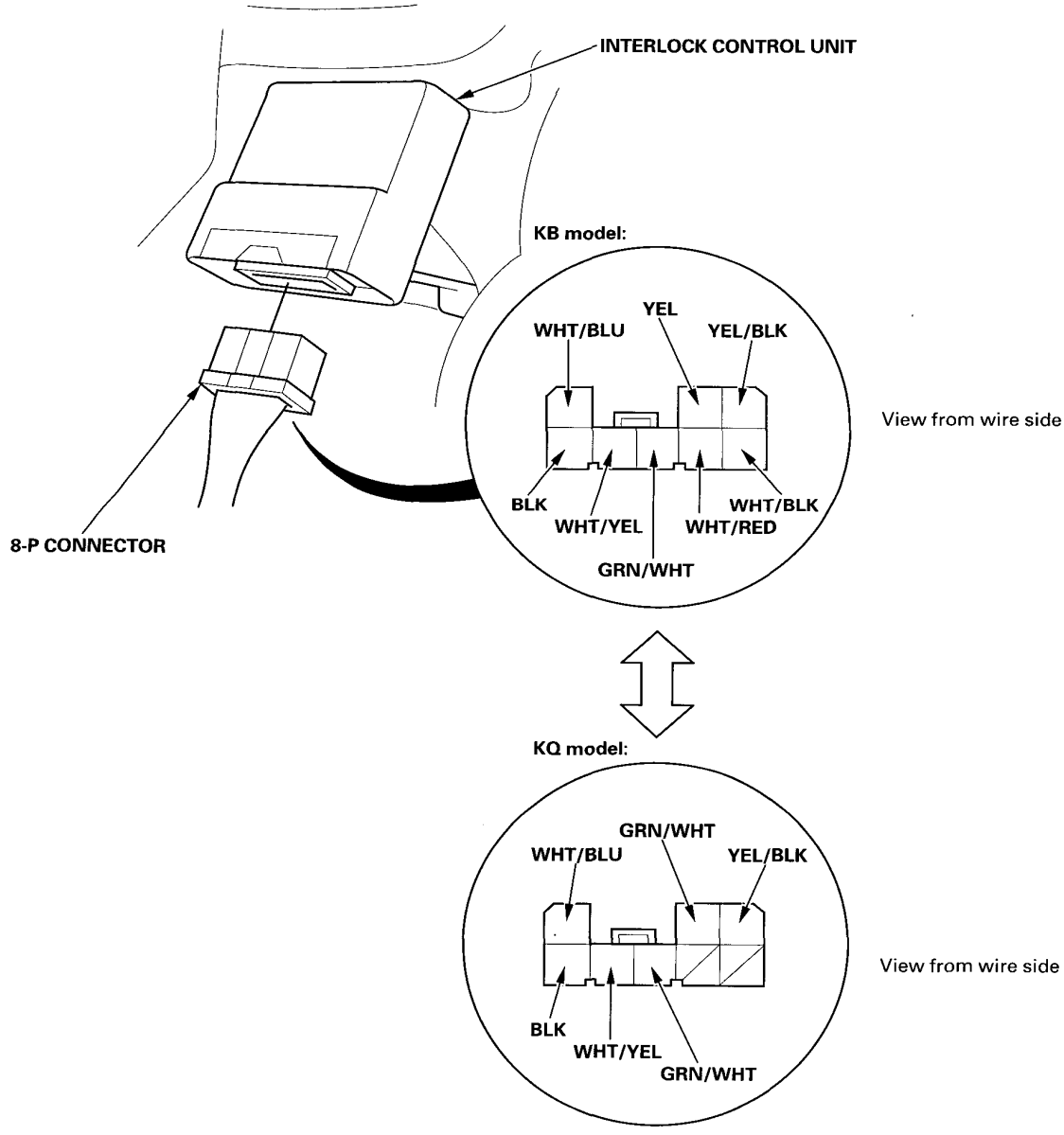


Interlock System

Control Unit Input Test

1. Disconnect the 8-P connector from the interlock control unit.
2. Inspect the connector and socket terminals to be sure they are all making good contact.
   - If the terminals are bent, loose or corroded, repair them as necessary, and recheck the system.
   - If the terminals look OK, make the following input tests at the connector.
     —If a test indicates a problem, find and correct the cause, then recheck the system.
     —If all the input tests prove OK, substitute a known-good control unit, and recheck the system. If the check is OK, the control unit must be faulty; replace it.

NOTE:
If the shift lock solenoid clicks when the ignition switch is turned ON (II) and you step on the brake pedal (with the shift lever in [P]), the shift lock system is electronically normal; if the shift lever cannot be shifted from [P], test the shift position console switch.



Shift Lock System:

No.	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
1	YEL	Ignition switch ON	Check for voltage to ground: There should be battery voltage.	· Blown No. 15 (10 A) fuse in the under-dash fuse/relay box · An open in the wire
2	GRN/WHT[2]	Shift lever in position [P]	Check for continuity to ground: There should be continuity.	· Faulty shift position console switch Poor ground (G201, G301, G401) · An open in the wire
3	YEL/BLK	Ignition switch ON	Check for voltage to ground: There should be battery voltage.	· Faulty shift lock solenoid · Blown No. 15 (10 A) fuse in the under-dash fuse/relay box · An open in the wire
4	WHT/RED	Ignition switch ON, brake pedal pushed	Check for voltage to ground: There should be 1 V or less.	· Faulty PGM-FI ECU · Faulty brake switch · Faulty throttle position sensor · An open in the wire
		Ignition switch ON, brake pedal and accelerator pushed at the same time	Check for voltage to ground: There should be about 3 V.	
5	GRN/WHT[1]	Brake pedal pushed	Check for voltage to ground: There should be battery voltage.	· Faulty brake switch · Blown No. 42 (20 A) fuse in the under-hood fuse/relay box · An open in the wire

No. 4: KB
No. 5: KQ

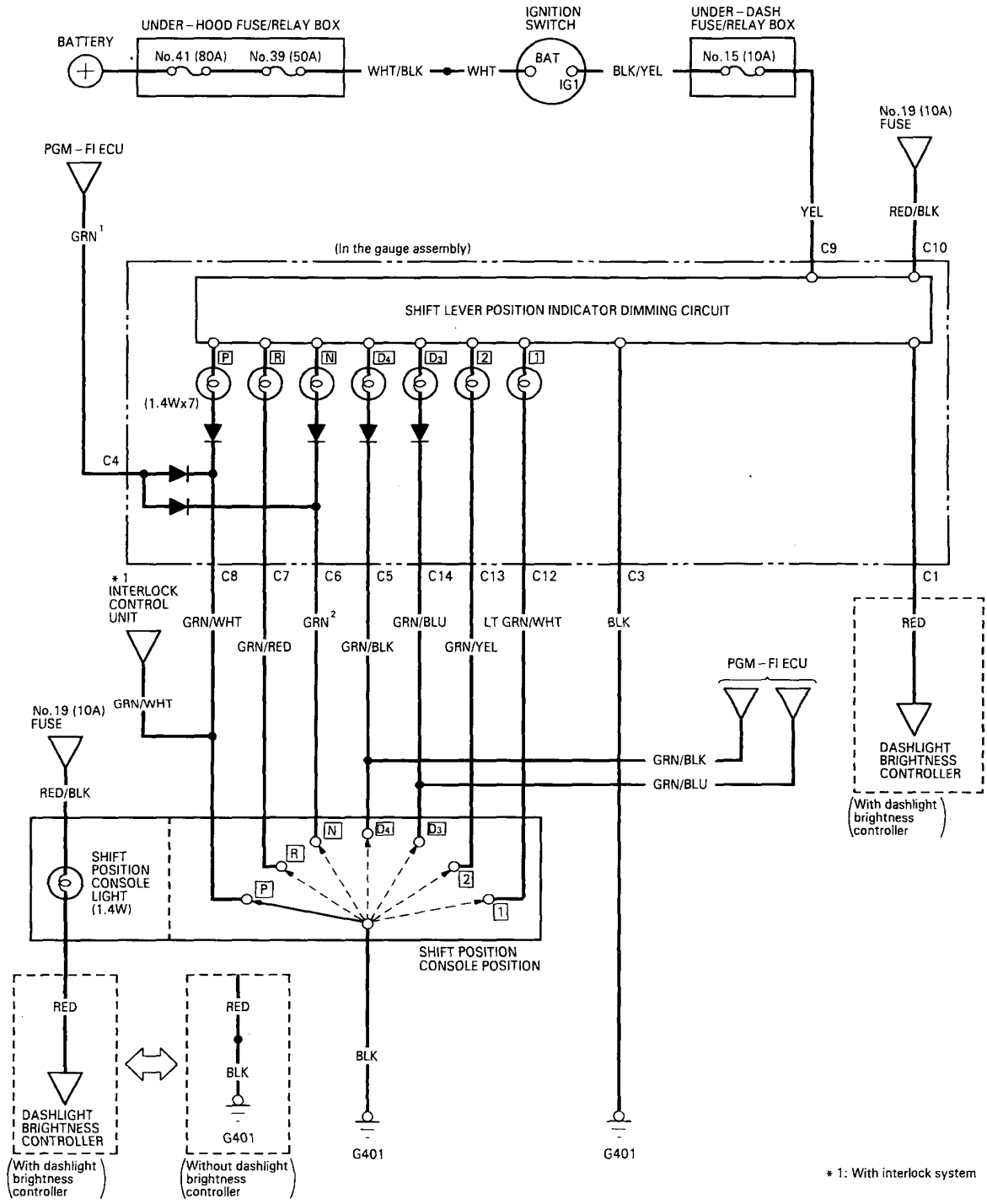
Key Interlock System:

No.	Wire	Test condition	Test: Desired result	Possible cause if result is not obtained
1	BLK	Under all conditions	Check for continuity to ground: There should be continuity.	· Blown No. 15 (10 A) fuse in the under-dash fuse/relay box · An open in the wire
2	GRN/WHT[2]	Shift lever in position [P]	Check for continuity to ground: There should be continuity.	· Faulty shift position console switch · Poor ground (G201, G301, G401) · An open in the wire
3	WHT/YEL WHT/BLU	Ignition switch turned to ACC and key pushed in	Check for voltage to ground: There should be battery voltage.	· Faulty key interlock solenoid in the steering lock assembly · Blown No. 42 (20 A) fuse in the under-hood fuse/relay box · An open in the wire
4	WHT/BLK	Push button pushed in position [P]	Check for continuity to ground: There should be continuity.	· Faulty parking pin switch · Poor ground (G201, G401) · An open in the wire
		Push button released in position [P]	Check for continuity to ground: There should be no continuity.	· Faulty parking pin switch · Short to ground · An open in the wire

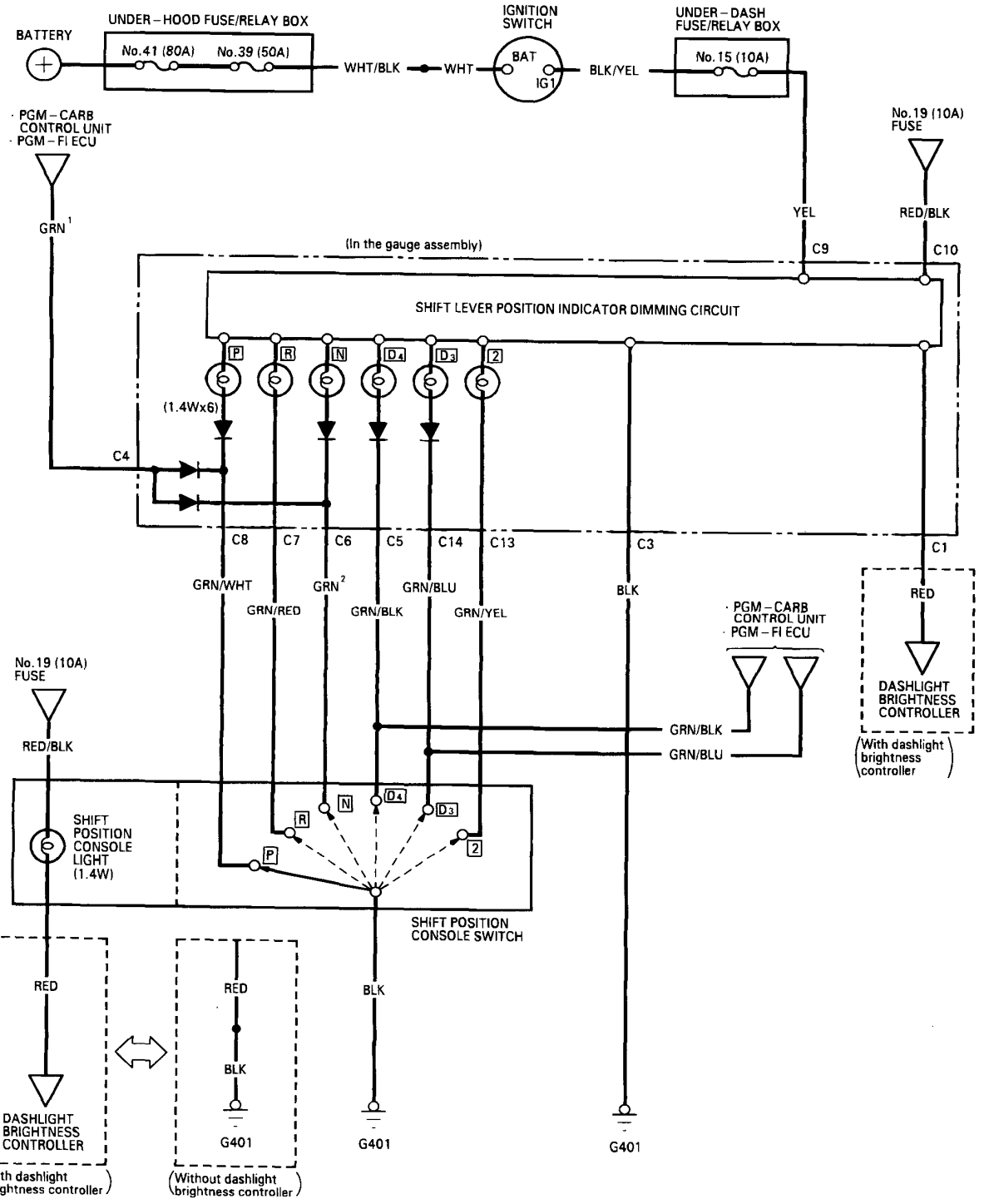
No.4: KB

Shift Lever Position Indicator

Circuit Diagram (2WD: 7-position Indicator)

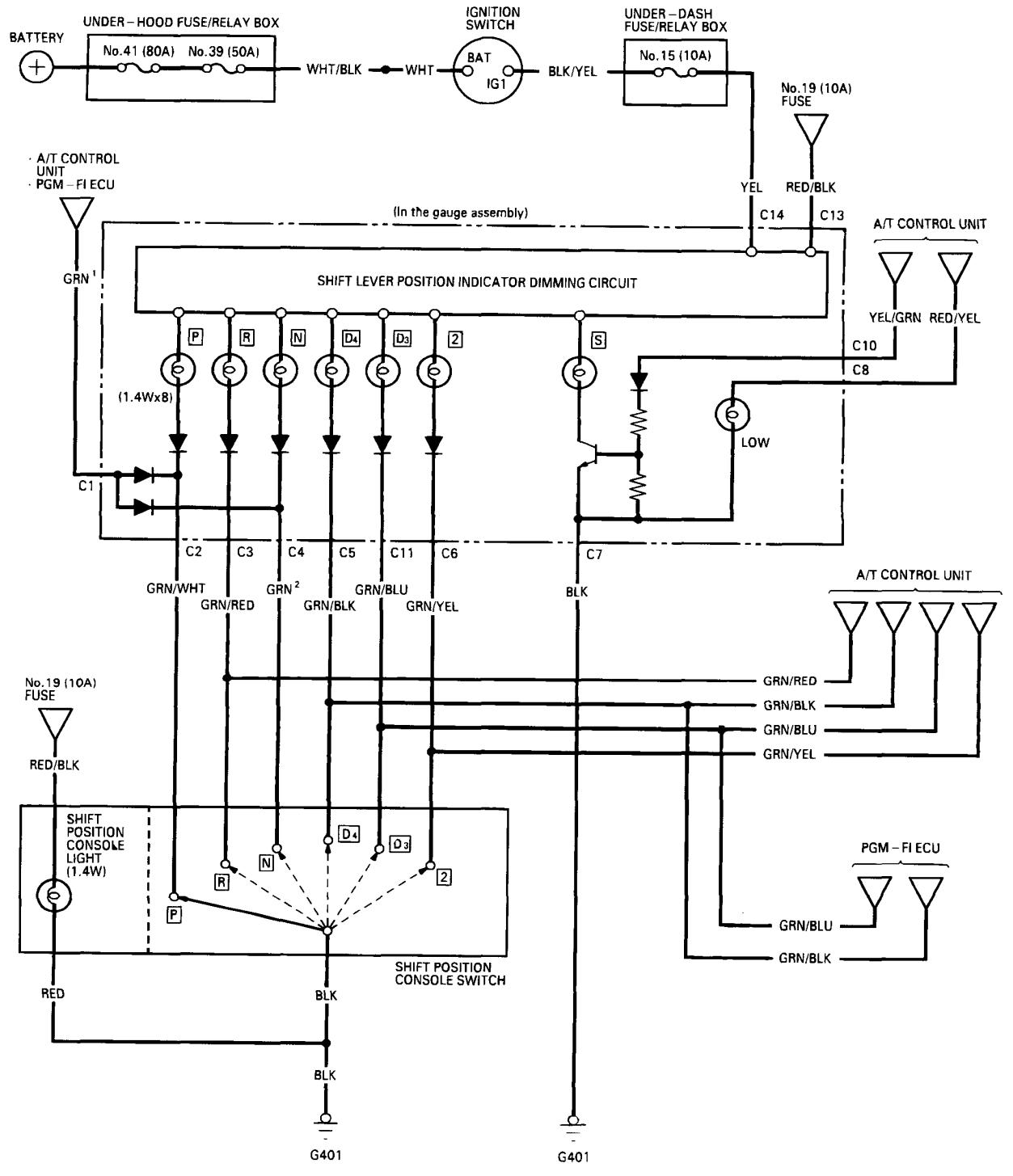


Circuit Diagram (2WD: 6-position Indicator)



Shift Lever Position Indicator

Circuit Diagram (4WD)

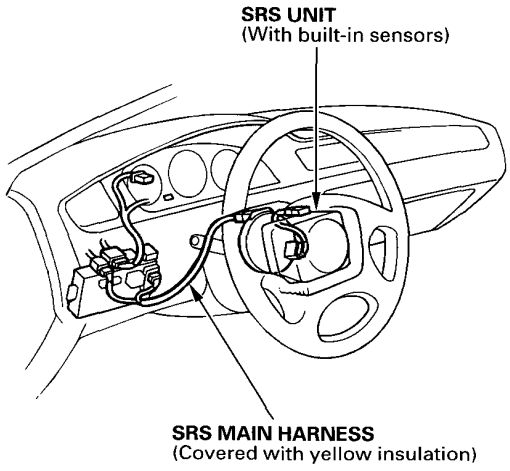


Indicator Input Test

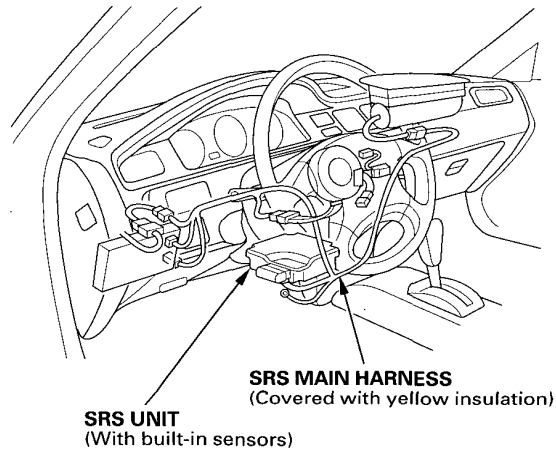
CAUTION:
- **All SRS wire harnesses are covered with yellow insulation.**
- **Replace the entire affected SRS harness assembly if it has an open circuit or damaged wiring.**
- **Before disconnecting the SRS wire harness, turn the ignition switch OFF, disconnect the battery negative cable, then disconnect the positive cable, and wait at least three minutes.**

SRS Type III only:
- **Whenever the ignition switch is ON (II), or has been turned OFF for less than three minutes, be careful not to bump the SRS unit; the airbags could accidentally deploy and cause damage or injuries.**
- **Before you disconnect any part of an SRS wire harness, connect the short connectors (RED) to the airbags.**
- **Refer to the additional precautions in the SRS sub-section (section 23).**

SRS Type II:

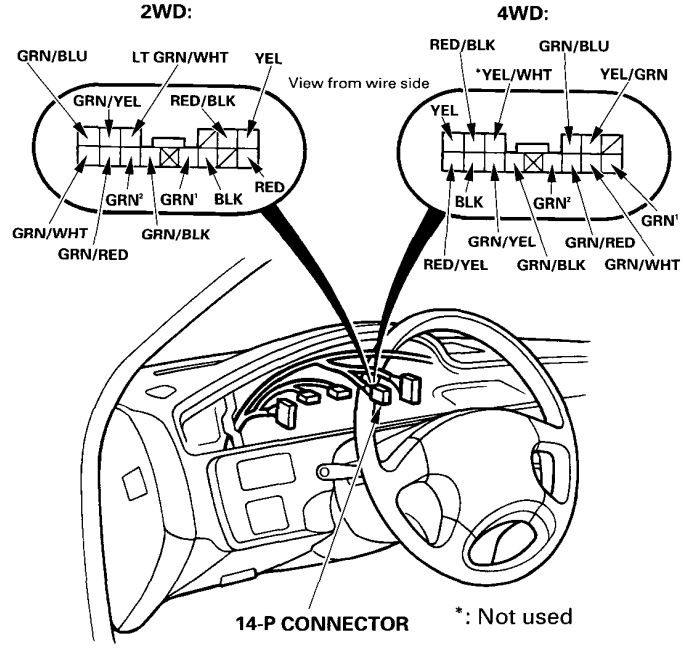


SRS Type III:



NOTE:
The illustration shows LHD type; RHD type is similar.

1. Remove the gauge assembly, and disconnect all connectors from it.
2. Inspect the connector and socket terminals to be sure they are all making good contact.
   - If the terminals are bent, loose or corroded, repair them as necessary, and recheck the system.
   - If the terminals look OK, make the following input tests at the 14-P connector.
     —If a test indicates a problem, find and correct the cause, then recheck the system.
     —If all the input tests prove OK, but the indicator is faulty, *replace the printed circuit board.*



(cont'd)

Shift Lever Position Indicator

Indicator Input Test (cont'd)

2WD:

No.	Wire	Test condition	Test: desired result	Possible cause if result is not obtained
1	BLK	Under all conditions	Check for continuity to ground: There should be continuity.	. Poor ground (G401) . An open in the wire
2	YEL	Ignition switch ON	Check for voltage to ground: There should be battery voltage.	. Blown No. 15 (10 A) fuse in the under-dash fuse/relay box . An open in the wire
3	GRN/WHT	Shift lever in position P	Check for continuity to ground: There should be continuity. NOTE: There should be no continuity in any other position.	. Faulty shift position console switch . Poor ground (G401) . An open in the wire
	GRN/RED	Shift lever in position R		
	GRN[2]	Shift lever in position N		
	GRN/BLU	Shift lever in position D3		
	GRN/BLK	Shift lever in position D4		
	GRN/YEL	Shift lever in position 2		
	LT GRN/WHT	Shift lever in position 1		
4	RED/BLK and RED	Combination light switch ON and dashlight brightness control dial on full bright	Check for voltage between RED/BLK and RED terminals: There should be battery voltage.	. Faulty dashlight brightness control system . An open in the wire
5	GRN[1]	Ignition switch ON	Check for voltage to ground: There should be more than 5 V.	. Faulty PGM-FI ECU . Faulty PGM-CARB control unit . An open in the wire

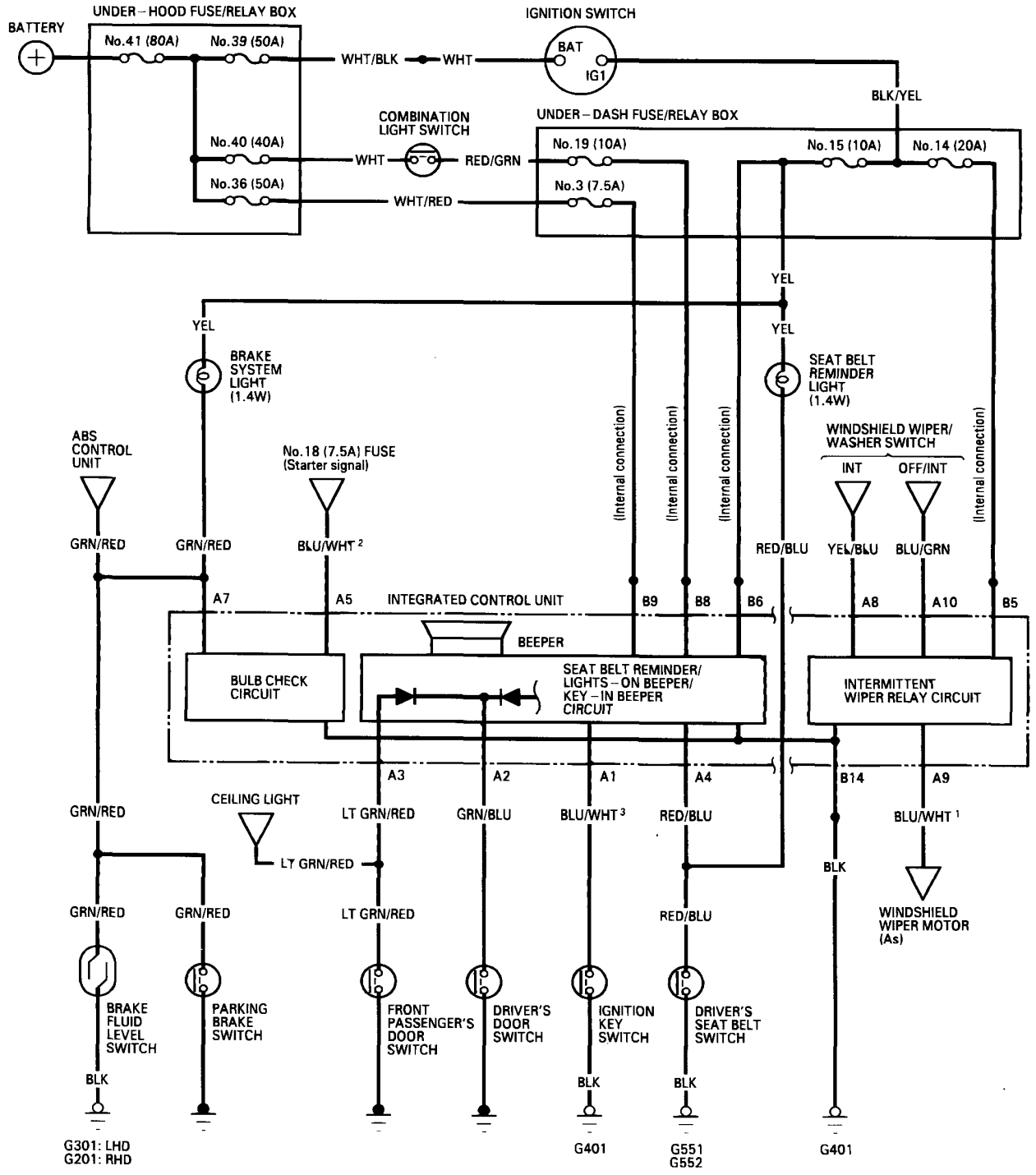
4WD:

No.	Wire	Test condition	Test: desired result	Possible cause if result is not obtained
1	BLK	Under all conditions	Check for continuity to ground: There should be continuity.	. Poor ground (G401) . An open in the wire
2	YEL	Ignition switch ON	Check for voltage to ground: There should be battery voltage.	. Blown No. 15 (10 A) fuse in the under-dash fuse/relay box . An open in the wire
3	GRN/WHT	Shift lever in position P	Check for continuity to ground: There should be continuity. NOTE: There should be no continuity in any other position.	. Faulty shift position console switch . Poor ground (G401) . An open in the wire
	GRN/RED	Shift lever in position R		
	GRN[2]	Shift lever in position N		
	GRN/BLU	Shift lever in position D3		
	GRN/BLK	Shift lever in position D4		
	GRN/YEL	Shift lever in position 2		
4	RED/BLK	Combination light switch ON	Check for voltage to ground: There should be battery voltage.	. Blown No. 19 (10 A) fuse in the under-dash fuse/relay box . An open in the wire
5	YEL/GRN	Ignition switch ON, shift lever in position D3 or D4 and S switch ON	Check for voltage to ground: There should be more than 5 V.	. Faulty S switch . Faulty shift position console switch . Faulty A/T control unit . An open in the wire
6	RED/YEL	Ignition switch ON, shift lever in position 2 and LOW switch ON	Check for voltage to ground: There should be battery voltage.	. Faulty LOW switch . Faulty shift position console switch . Faulty A/T control unit . An open in the wire
7	GRN[1]	Ignition switch ON	Check for voltage to ground: There should be more than 5 V.	. Faulty PGM-FI ECU . An open in the wire
8	YEL/WHT	Not used		

Integrated Control Unit

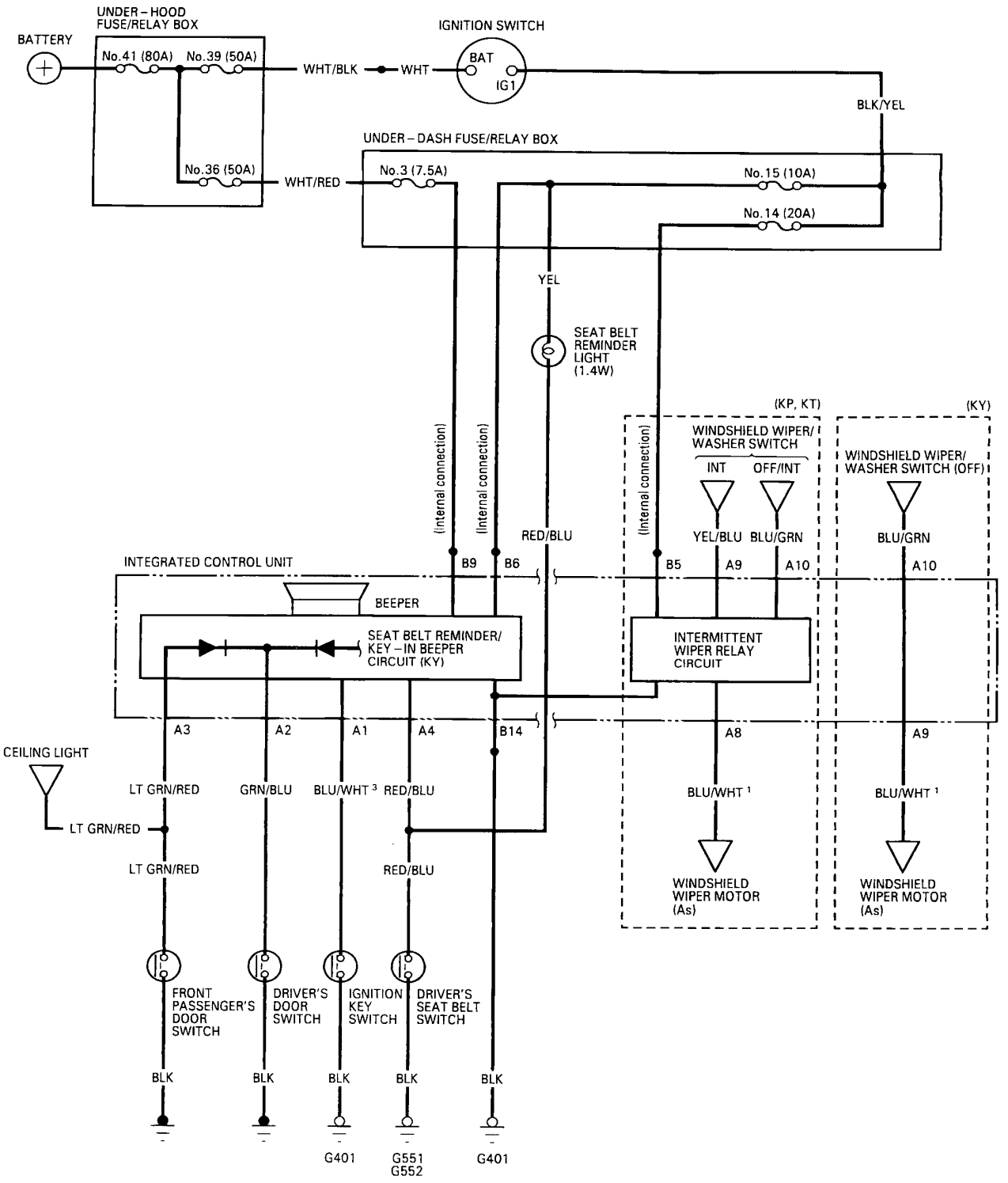
Circuit Diagram (KB, KM, KQ)

KQ: Without key-in beeper system
KM: Without lights-on beeper system

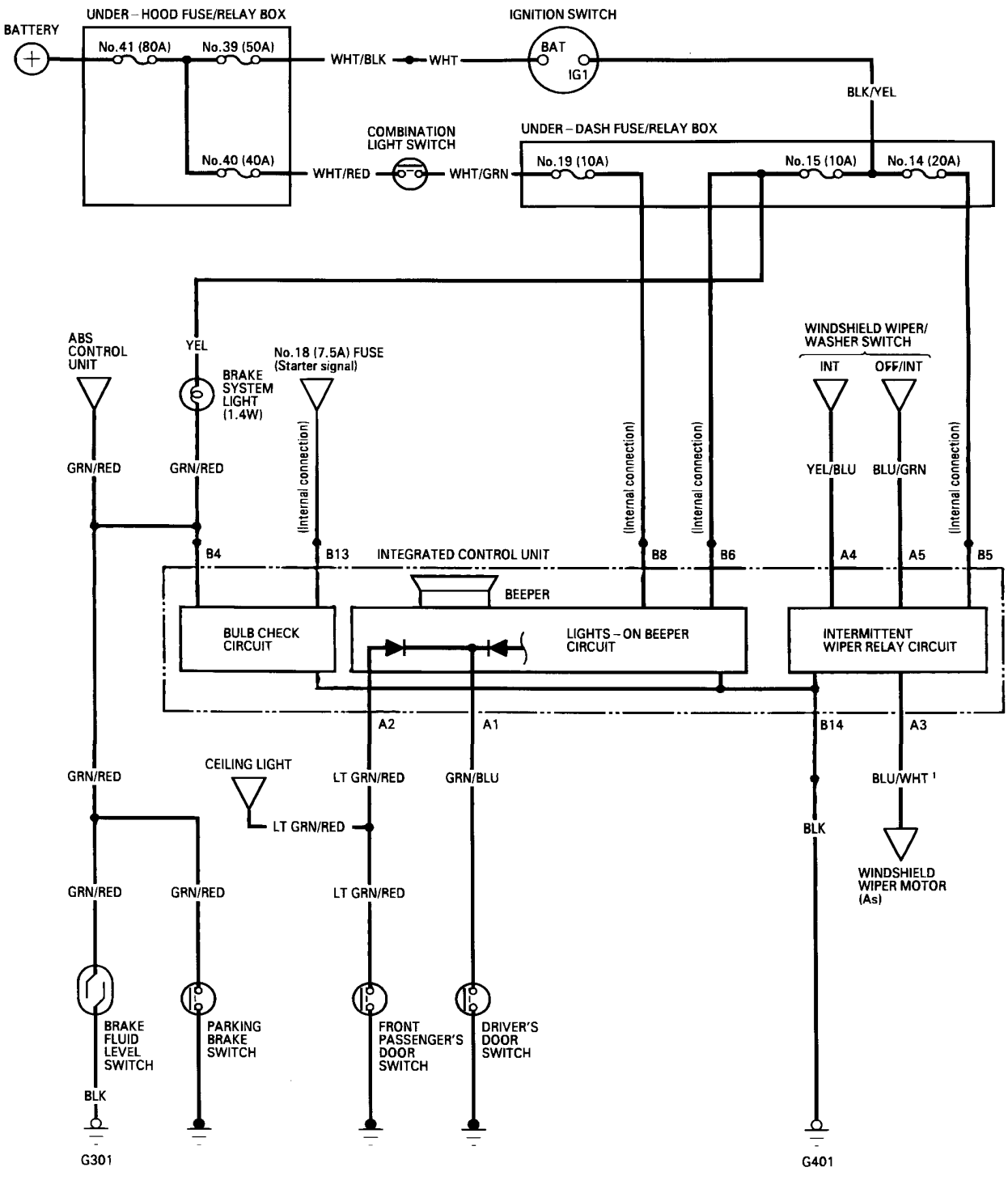


Integrated Control Unit

Circuit Diagram (KP, KT, KY)



Circuit Diagram (KG, KM)



Integrated Control Unit

Control Unit Input Test

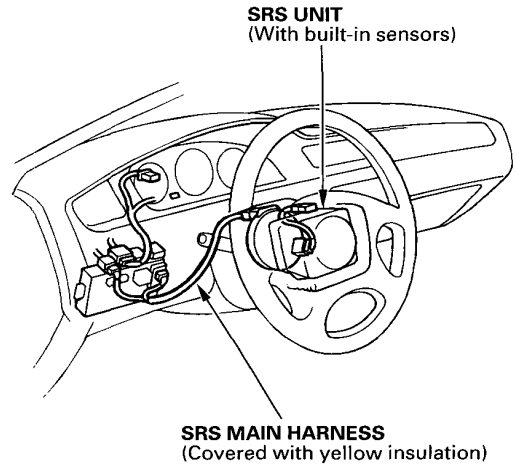
CAUTION:
- **All SRS wire harnesses are covered with yellow insulation.**
- **Replace the entire affected SRS harness assembly if it has an open circuit or damaged wiring.**
- **Before disconnecting the SRS wire harness, turn the ignition switch OFF, disconnect the battery negative cable, then disconnect the positive cable, and wait at least three minutes.**

SRS Type III only:
- **Whenever the ignition switch is ON (II), or has been turned OFF for less than three minutes, be careful not to bump the SRS unit; the airbags could accidentally deploy and cause damage or injuries.**
- **Before you disconnect any part of an SRS wire harness, connect the short connectors (RED) to the airbags.**
- **Refer to the additional precautions in the SRS subsection (section 23).**

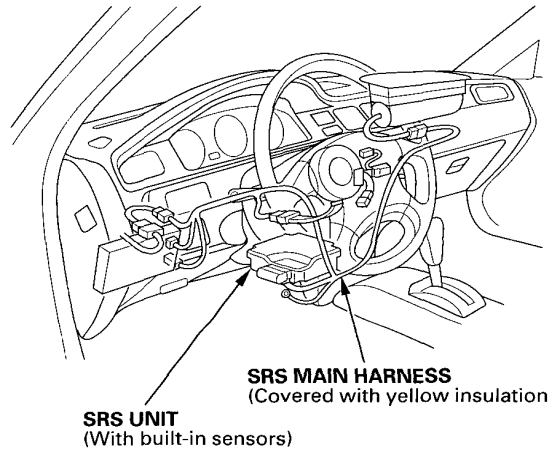
1. Remove the dashboard lower cover, then disconnect the 10-P connector from the integrated control unit.
2. Remove the integrated control unit from the under-dash fuse/relay box. Inspect the connector and socket terminals to be sure they are all making good contact.
   - If any terminals are bent, loose or corroded, repair them as necessary, and recheck the system.
   - If the terminals look OK, make the following input tests at the connector and socket terminals.
     —If any test indicates a problem, find and correct the cause, then recheck the system.
     —If all the input tests prove OK, the control unit must be faulty; replace it.

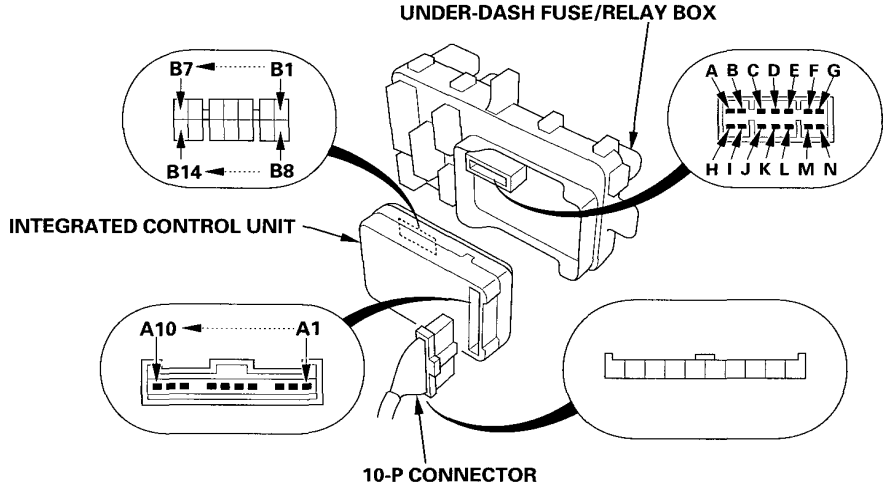
NOTE:
Do not disconnect any other connectors from the under-dash fuse/relay box except those for the integrated control unit.

SRS Type II:

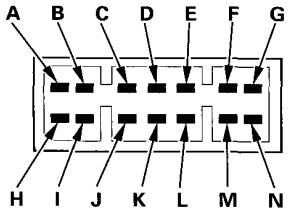


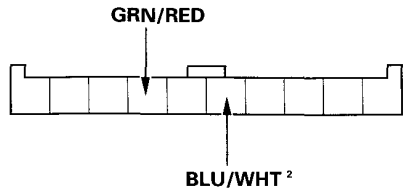
SRS Type III:





Bulb Check System:





View from wire side

Bulb Check System (brake system light):

KB, KQ:

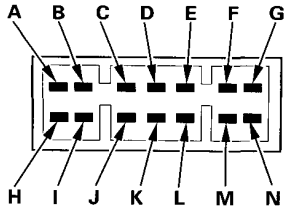
No.	Wire/ Terminal	Test condition	Test: desired result	Possible cause if result is not obtained
1	N	Under all conditions	Check for continuity to ground: There should be continuity.	· Poor ground (G401) · An open in the wire
2	BLU/WHT[2]	Ignition switch at START	Check for voltage to ground: There should be battery voltage.	· Blown No. 18 (15 A) fuse in the under-dash fuse/relay box · Faulty neutral safety switch (A/T) · An open in the wire
3	GRN/RED	Ignition switch to ON, brake fluid reservoir full, and parking brake lever down	Connect to ground: Brake system light should come on.	· Blown No. 15 (10 A) fuse in the under-dash fuse/relay box · Blown brake system light · An open in the wire

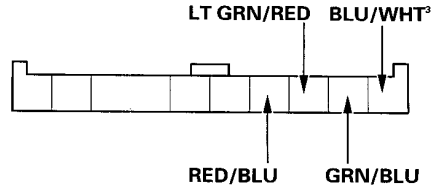
Except KB and KQ:

No.	Terminal	Test condition	Test: desired result	Possible cause if result is not obtained
1	N	Under all conditions	Check for continuity to ground: There should be continuity.	· Poor ground (G401) · An open in the wire
2	M	Ignition switch at START	Check for voltage to ground: There should be battery voltage.	· Blown No. 18 (15 A) fuse in the under-dash fuse/relay box · Faulty neutral safety switch (A/T) · An open in the wire
3	D	Ignition switch to ON, brake fluid reservoir full, and parking brake lever down	Connect to ground: Brake system light should come on.	· Blown No. 15 (10 A) fuse in the under-dash fuse/relay box · Blown brake system light · An open in the wire

- **Seat Belt Reminder System:**
- **Key-in Beeper System:**
- **Lights-on Beeper System:**

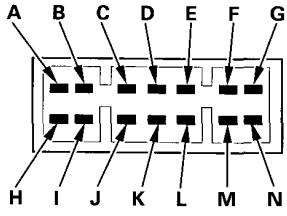
KB, KM (D15B7/D16Z6 engine), KQ, KY:

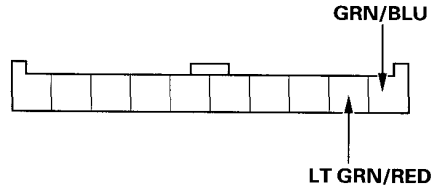




View from wire side

KG, KM (B16A3 engine):



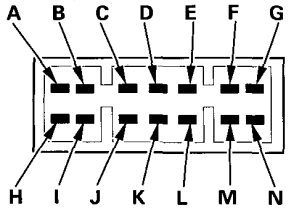


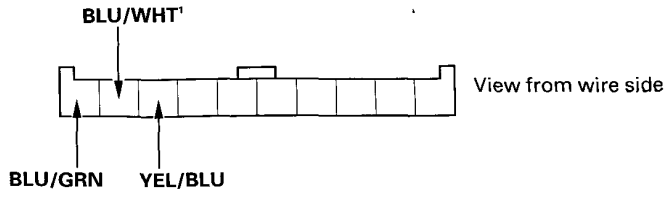
View from wire side

No.	Wire/ Terminal	Test condition	Test: desired result	Possible cause if result is not obtained
1	N	Under all conditions	Check for continuity to ground: There should be continuity.	· Poor ground (G401) · An open in the wire
2	H	Combination light switch ON (≡0D)or (•)	Check for voltage to ground: There should be battery voltage.	· Faulty combination light switch · Blown No. 19 (10 A) fuse in the under-dash fuse/relay box · An open in the wire
3	I	Under all conditions	Check for voltage to ground: There should be battery voltage.	· Blown No. 3 (7.5 A) fuse in the under-dash fuse/relay box · An open in the wire
4	F	Ignition switch to ON	Check for voltage to ground: There should be battery voltage.	· Blown No. 15 (10 A) fuse in the under-dash fuse/relay box · An open in the wire
5	GRN/BLU	Driver's door open	Check for continuity to ground: There should be continuity.	· Faulty driver's door switch · An open in the wire
6	LT GRN/ RED	Front passenger's door open	Check for continuity to ground: There should be continuity.	· Faulty front passenger's door switch · An open in the wire
7	BLU/WHT[3]	Ignition key is inserted into the ignition switch	Check for continuity to ground: There should be continuity.	· Faulty ignition key switch · Poor ground (G401) · An open in the wire
8	RED/BLU	Driver's seat belt is unbuckled	Check for continuity to ground: There should be continuity.	· Faulty driver's seat belt switch · Poor ground (G551, G552) · An open in the wire

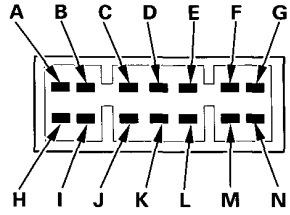
Intermittent Wiper Relay System:

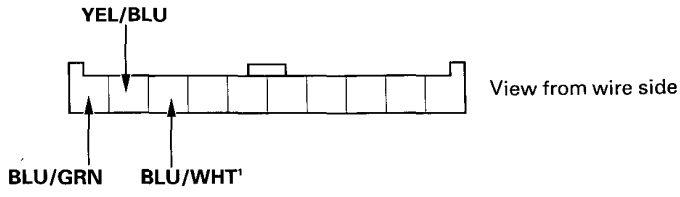
KB, KM (D15B7/D16Z6 engine), KQ:



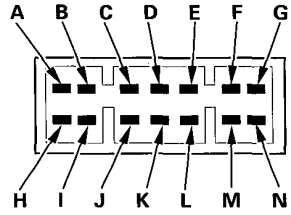


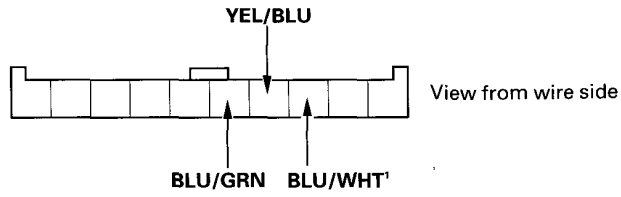
KP, KT:





KG, KM (B16A3 engine):

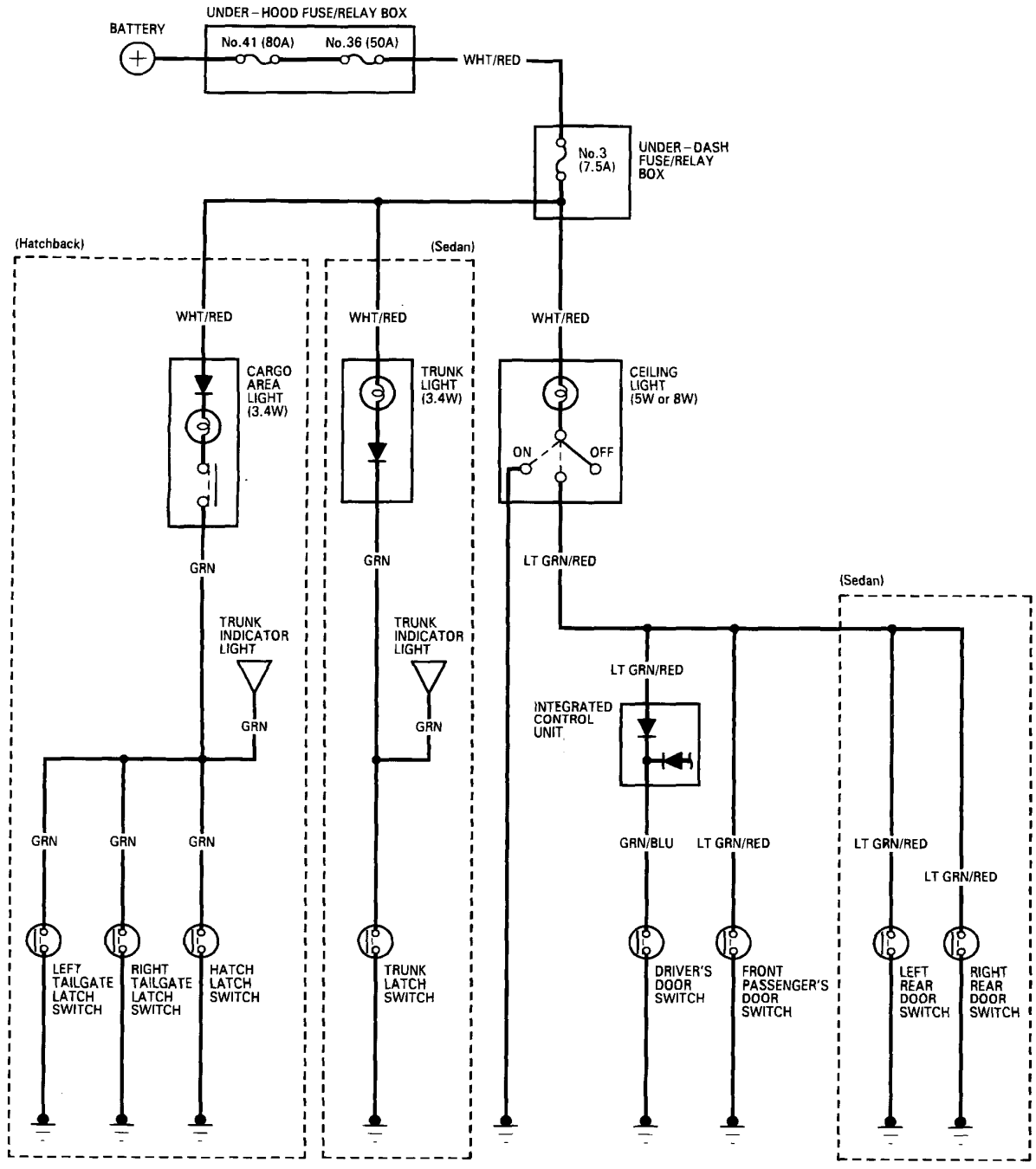




No.	Wire/ Terminal	Test condition	Test: desired result	Possible cause if result is not obtained
1	N	Under all conditions	Check for continuity to ground: There should be continuity.	· Poor ground (G401) · An open in the wire
2	E	Ignition switch to ON	Check for voltage to ground: There should be battery voltage.	· Blown No. 14 (20 A) in the under-dash fuse/relay box · An open in the wire
3	YEL/BLU	Ignition switch to ON, and windshield wiper switch INT	Check for voltage to ground: There should be battery voltage.	· Blown No. 14 (20 A) in the under-dash fuse/relay box · Faulty windshield wiper switch · An open in the wire
4	BLU/WHT¹ and BLU/GRN	Windshield wiper switch OFF or INT, and wiper blades in park position	Check for continuity between the BLU/WHT¹ and BLU/GRN terminals: There should be continuity.	· Faulty windshield wiper switch · Faulty windshield wiper motor · An open in the wire

Ceiling/Trunk/Cargo Area Lights

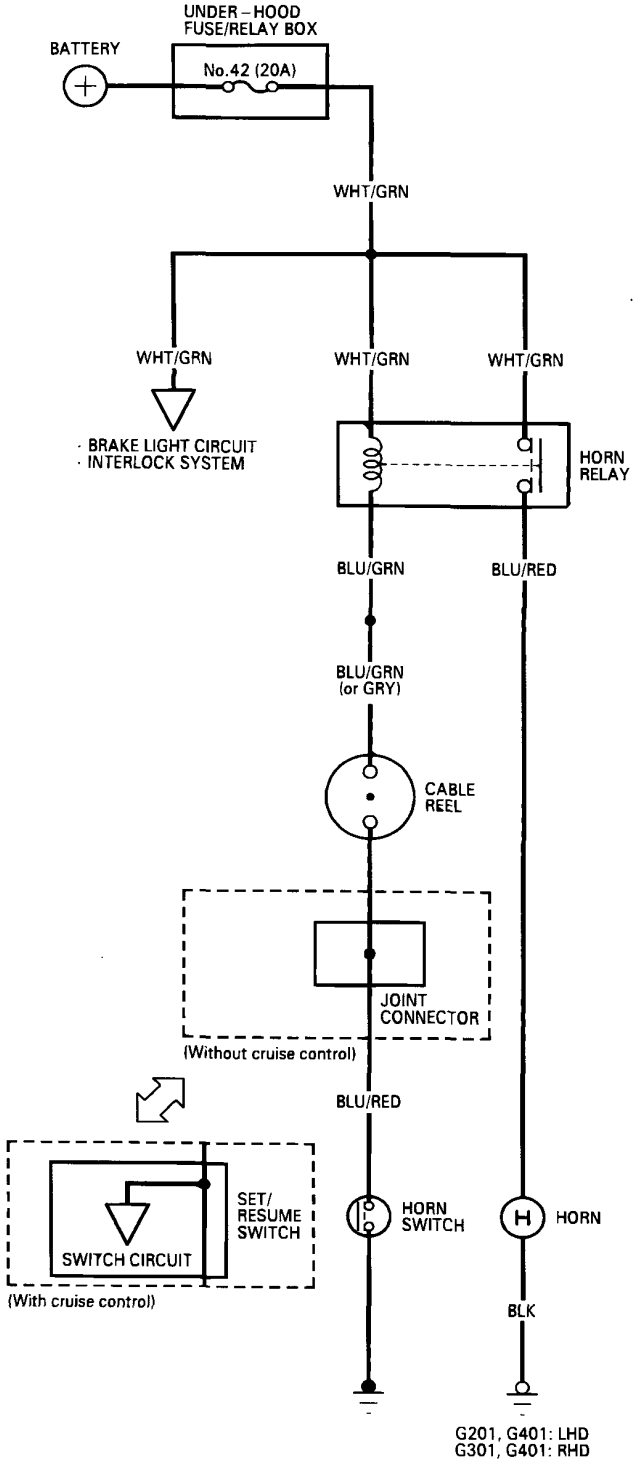
Circuit Diagram



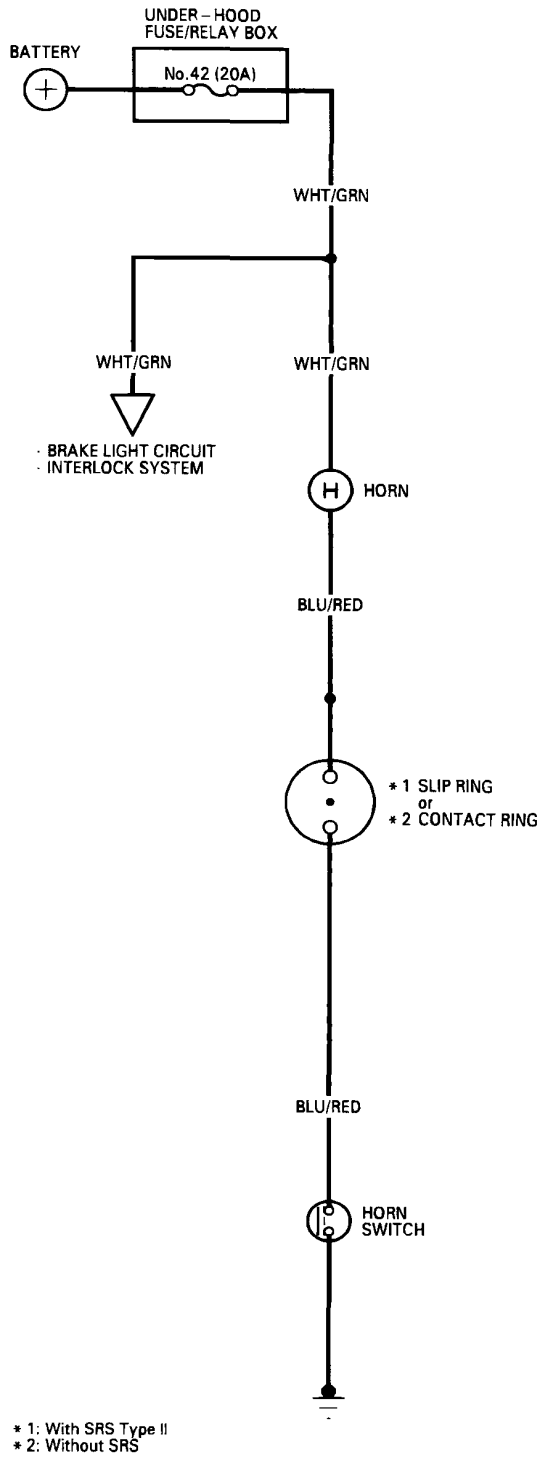
Horn

Circuit Diagram

With SRS Type III:



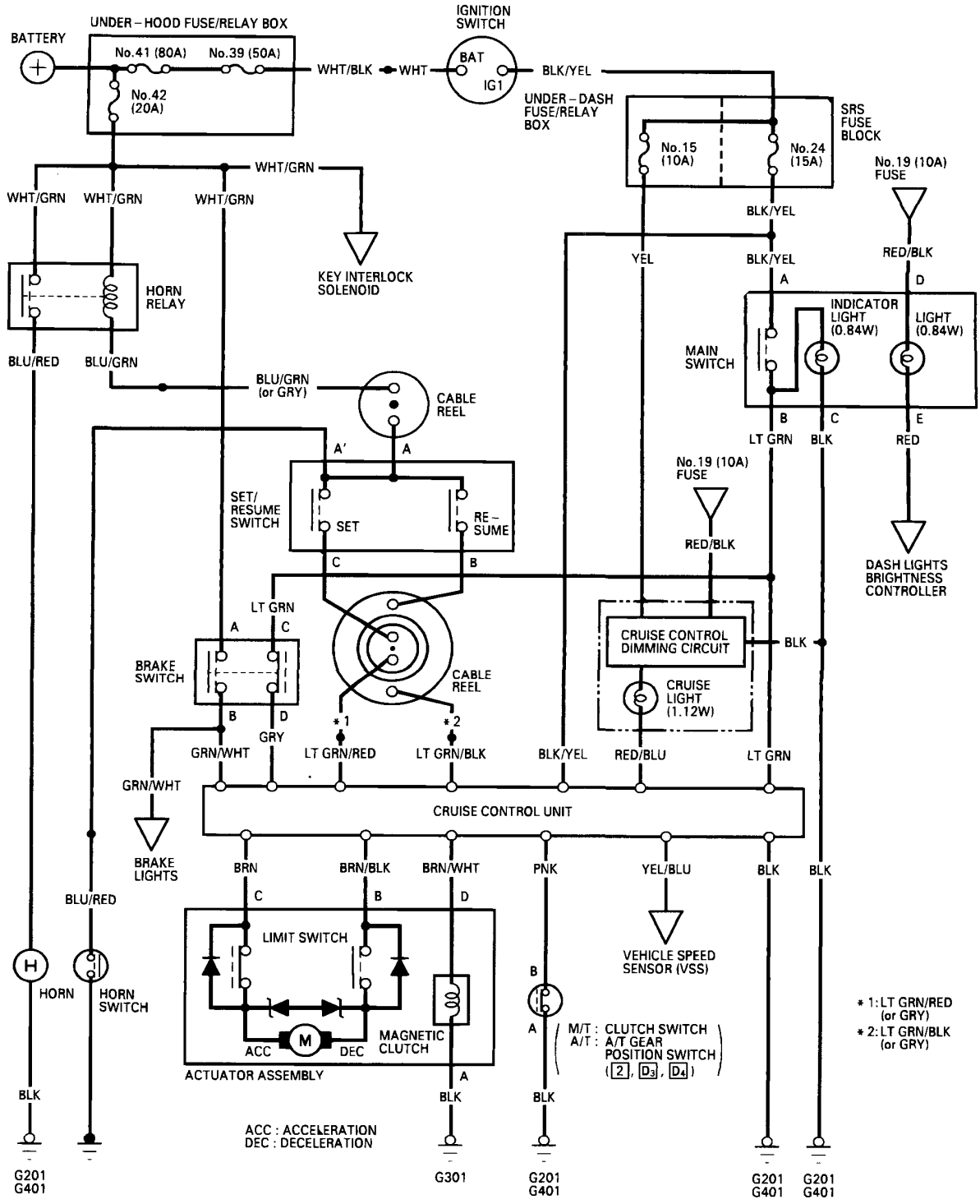
Without SRS Type III:



* 1: With SRS Type II
* 2: Without SRS

Cruise Control (KB, KM)

Circuit Diagram



Troubleshooting

NOTE:
- The numbers in the table show the troubleshooting sequence.
- Before troubleshooting.
  —*Check* the No. 15 (10 A) and No. 24 (15 A) fuses in the under-dash fuse/relay box, and the No. 41 (80 A), No. 39 (50 A), and No. 42 (20 A) fuses in the under-hood fuse/relay box.
  —Check that the horn sounds.
  —Check the tachometer to see if it works properly.

Items to be inspected / Symptom	Main switch	SET/RESUME switch	Brake switch and mounting	Clutch switch and mounting (M/T)	A/T gear position switch (A/T)	Vehicle speed sensor (VSS)	Dimming circuit in gauges	Actuator and cable deflection	Control unit	Poor ground	Open circuit, loose or disconnected terminals
Cruise control cannot be set.	2	3	4	5					1	G301, G201, G401	BLU/RED, LT GRN/RED, BLK/YEL, LT GRN, GRY, YEL/BLU, BRN, BRN/BLK, BRN/WHT or PNK
Cruise control can be set, but indicator light does not go on.							2		1	G201, G401	YEL or RED/BLU
Cruise speed noticeably higher or lower than what was set.						1		2	3		
Excessive overshooting and/or undershooting when trying to set speed.						2		1	3		
Steady speed not held even on a flat road with cruise control set.						1		2	3		
Car does not decelerate or accelerate accordingly when SET or RESUME button is pushed.		1							2		LT GRN/BLK LT GRN/RED
Set speed not cancelled when clutch pedal is pushed (M/T).				1					2		
Set speed not cancelled when shift lever is moved to [N] (A/T).					1				2		
Set speed not cancelled when brake pedal is pushed.			1						2		
Set speed not cancelled when main switch is pushed OFF.	1								2		
Set speed not resumed when RESUME button is pushed (with main switch, but set speed temporarily cancelled).		1							2		LT GRN/BLK LT GRN/RED

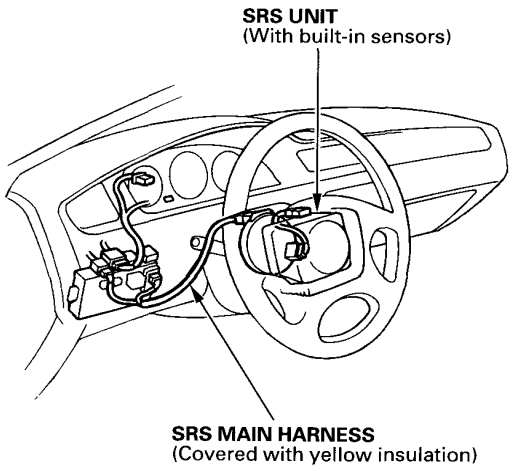
Cruise Control (KB, KM)

Control Unit Input Test

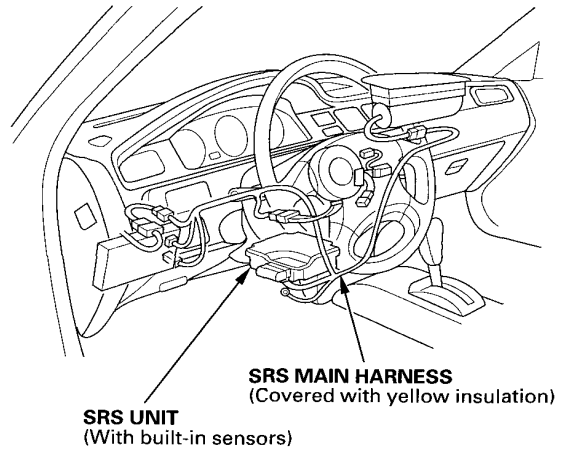
CAUTION:
- **All SRS wire harnesses are covered with yellow insulation.**
- **Replace the entire affected SRS harness assembly if it has an open circuit or damaged wiring.**
- **Before disconnecting the SRS wire harness, turn the ignition switch OFF, disconnect the battery negative cable, then disconnect the positive cable, and wait at least three minutes.**

SRS Type III only:
- **Whenever the ignition switch is ON (II), or has been turned OFF for less than three minutes, be careful not to bump the SRS unit; the airbags could accidentally deploy and cause damage or injuries.**
- **Before you disconnect any part of an SRS wire harness, connect the short connectors (RED) to the airbags.**
- **Refer to the additional precautions in the SRS sub-section (section 23).**

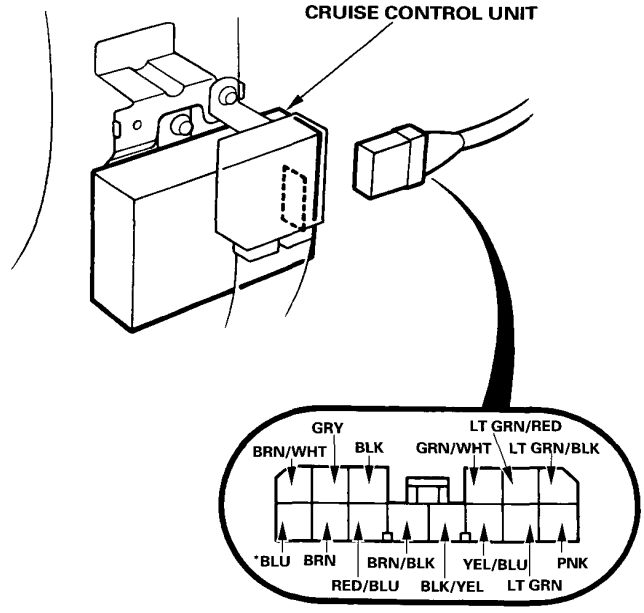
SRS Type II:



SRS Type III:



1. Disconnect the 14-P connector from the control unit.
2. Inspect the connector terminals to be sure they are all making good contact.
   - If the terminals are bent, loose, or corroded, repair them as necessary, and recheck the system.
   - If the terminals look OK, make the following input tests at the connector terminals.
     —If any test indicates a problem, find and correct the cause, then recheck the system.
     —If all the input tests prove OK, the control unit must be faulty; replace it.



View from wire side

*BLU: Not used

No.	Wire	Test condition	Test: desired result	Possible cause if result is not obtained
1	BLK	Under all conditions	Check for continuity to ground: There should be continuity:	· Poor ground (G201) · An open in the wire
2	LT GRN	Ignition switch ON and main switch ON	Check for voltage to ground: There should be battery voltage.	· Blown No. 24 (15 A) fuse in the under-dash fuse/relay box · Faulty main switch · An open in the wire
3	LT GRN/ BLK	RESUME button pushed	Check for voltage to ground: There should be battery voltage.	· Blown No. 42 (20 A) fuse in the under-hood fuse/relay box · Faulty SET/RESUME switch · Faulty cable reel · An open in the wire
4	LT GRN/ RED	SET button pushed		
5	PNK	M/T: Clutch pedal released A/T: Shift lever in 2, D_3, or D_4	Check for continuity to ground: There should be continuity. NOTE: There should be no continuity when the clutch pedal is depressed or when the shift lever is in other positions.	· Faulty or misadjusted clutch switch (M/T) · Faulty A/T gear position switch (A/T) · Poor ground (G201, G401) · An open in the wire
6	BLU	Not used		
7	YEL/BLU	Ignition switch ON and main switch ON. Raise the front of the car, rotate one wheel slowly	Check for voltage between the YEL/BLU ⊕ and BLK ⊖ terminals: There sholud be 0—about 5 V—0—about 5 V repeatedly.	· Faulty vehicle speed sensor (VSS) · An open in the wire
8	GRY	Ignition switch ON, main switch ON and brake pedal pushed, then released	Check for voltage to ground: There should be 0 V with the pedal pushed and battery voltage with the pedal released.	· Faulty brake switch · An open in the wire
9	GRN/WHT	Brake pedal pushed, then released	Check for voltage to ground: There should be battery voltage with the pedal pushed, and 0 V with the pedal released.	· Faulty brake switch · An open in the wire
10	RED/BLU	Ignition switch ON	Attach to ground: Indicator light in the gauge assembly comes on.	· Blown bulb · Blown No. 15 (10 A) fuse in the under-dash fuse/relay box · Faulty dimming circuit in the gauge assembly · An open in the wire
11	BRN	Connect the battery power to the BRN terminal and ground to the BRN/BLK terminal	Check the operation of the actuator motor: You should be able to hear the motor.	· Faulty actuator · An open in the wire
12	BRN/BLK			
13	BRN/WHT	Connect the battery power to the BRN/ WHT terminal	Check the operation of the magnetic clutch: Clutch should click and output link should be locked.	· Faulty actuator · An open in the wire · Poor ground (G301)
14	BLK/YEL	Ignition switch ON	Check for voltage to ground: There should be battery voltage.	· Blown No. 24 (15 A) fuse in the under-dash fuse/relay box · An open in the wire